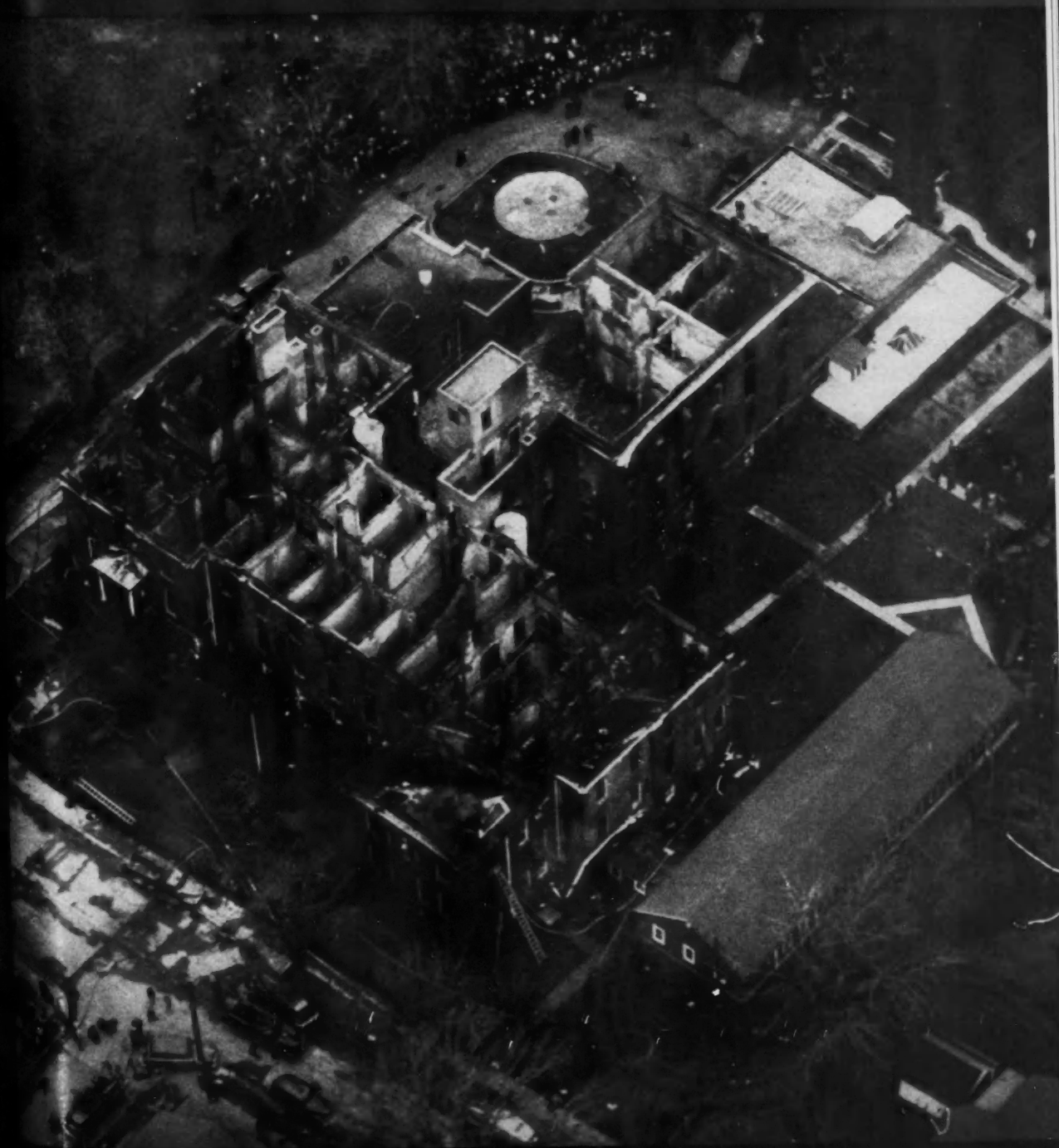
MAY 1949

FIREMEN

FIFTY-FOURTH YEAR • NATIONAL FIRE PROTECTION ASSOCIATION



John BEAN

FOG FIRE FIGHTER Makes History!

"We're really making fire fighting history around here," writes Paul Shiffer, chief of the Elizabethtown, Pa., fire department, "and plenty of credit goes to our John Bean High-Pressure Fog Fire Fighter."

That's typical of the comments we constantly receive praising the performance of John Bean equipment. Men who are in a position to know . . . men who have *actually* used the equipment . . . say that the John Bean Fog Fire Fighter is the finest single piece of apparatus any fire company can own.

With John Bean Fog Fire Fighters, fire departments serving rural *or* city areas can offer maximum protection with minimum fire loss. Write for additional details.

PROOF—of John Bean efficiency. Fire, although well under way, was completely subdued in a matter of minutes by the Elizabethtown fire department.

IN ACTION—Elizabethtown's fire fighters using John Bean Fog Fire Fighter in recent fire. Flames were extinguished almost immediately; water damage was negligible.

HISTORY MAKER—in proven fire fighting performance. The John Bean High-Pressure Fog Fire Fighter, carrying its own water supply, provides two guns of 30 gallons each and 850 lbs. pump pressure.

BEAN *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY AND CHEMICAL CORPORATION

JOHN BEAN DIVISION, DEPT. 127, LANSING 4, MICH. • JOHN BEAN DIVISION (WESTERN), 426 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

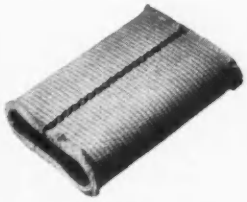
GET VALUABLE EXTRA FOOTAGE WITH

COMPACT, FLEXIBLE BWH FIRE HOSE

It folds evenly, lies flat, and takes up the least possible space on the truck. That's why you can carry longer lengths of BWH Fire Hose, to get at those troublesome out-of-the-way spots at stubborn fires.

BWH Fire Hose is extra sturdy, too. The staunch, closely-woven cotton jacket that protects its rugged tube was originated by BWH technologists. Expert engineering gives great strength and durability without cumbersome weight. So it's no wonder BWH Hose is hailed by fire fighters everywhere for the outstanding service it gives.

BWH Fire Hose is available through the General Detroit Corporation and its subsidiary, the General Pacific Corporation, who maintain branches and warehouses in almost every section of the United States. Look for the "General" trademark in the classified section of your phone book — call your local "General" representative to give you expert advice on all municipal fire fighting problems.

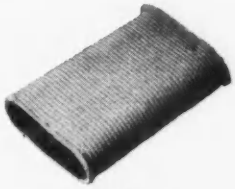


BWH
"BOSTON FIRE JACKET" HOSE
Double Jacket

Carefully pressure tested and inspected. Really rugged, yet surprisingly flexible. For cities that want the best.

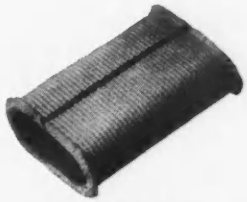
BWH
"PARAMOUNT" HOSE
Double Jacket

Famous for its flexibility, long life, dependable ruggedness. Made of fine materials.



BWH
"MILO" HOSE
Single Jacket

Big value for communities where light service hose answers. Durable, long lasting, easy to handle.



BWH
"UNDERWRITERS'" HOSE
Single or Double Jacket

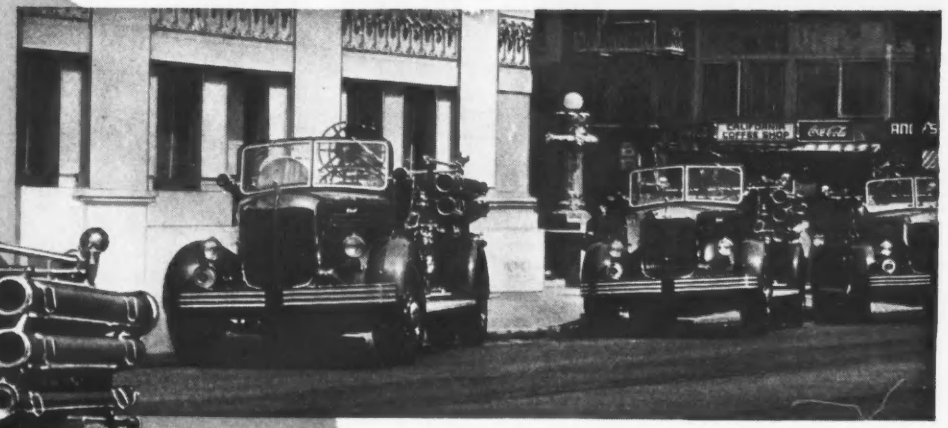
Made in strict accordance with the National Board of Fire Underwriters' specifications. Labeled or unlabeled.

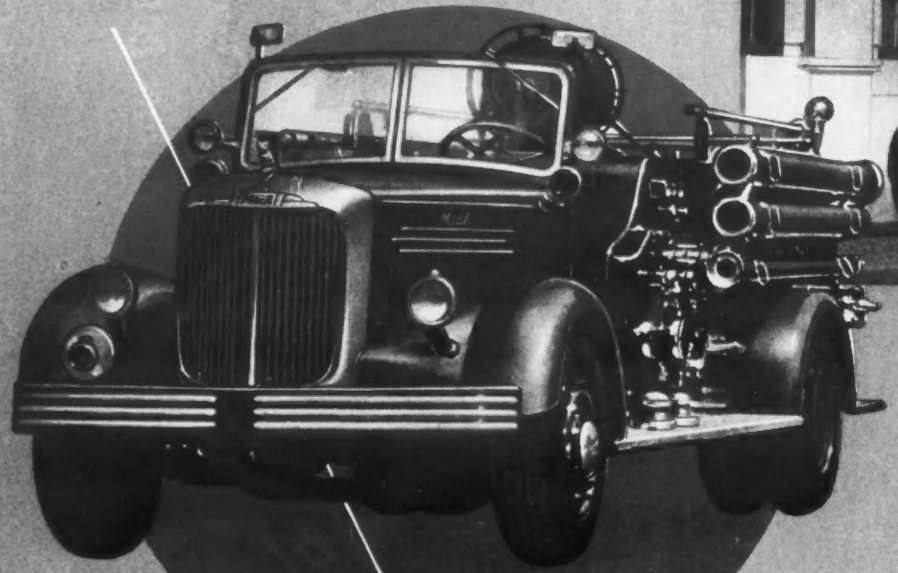
Distributors of famous
BOSTON WOVEN HOSE AND RUBBER CO.
Municipal Fire Hose

THE GENERAL DETROIT CORP.
DETROIT 7, MICHIGAN
NEW YORK • ATLANTA • CHICAGO • DALLAS
Subsidiary:
THE GENERAL PACIFIC CORP.
LOS ANGELES • SAN FRANCISCO • SEATTLE

OAKLAND'S

Out in Front..





Right out in front of the Oakland, California, City Hall are 4 new Mack Type 21, 1250-gallon triple combination pumpers representing the last word in performance. Powered by 275 horsepower engines, each Mack features a 250-gallon water tank, high-pressure hose reel, and the latest "Centrifog" 4-stage auxiliary pump with 50-gallon capacity at 800 lbs. pressure.

7354

● In Oakland too — as in over 1000 other progressive communities — Mack fire apparatus are out in front — in modern design . . . performance . . . reliability.

There's good reason for Mack's leadership. For every Mack is built to be a leader. It is the product of the greatest research, engineering and manufacturing facilities in the field. And it is backed by the industry's most comprehensive network of dealers and factory branches . . . quickly available for parts and service.

Remember, no matter what your fire-fighting requirements may be, there's a Mack that can more than satisfy your needs. Team up with the leader . . . get out in front . . . and *Modernize with Macks.*

AS YOU CAN BE . . .

with **Mack** FIRE APPARATUS

MACK MANUFACTURING CORP.
Fire Apparatus Division
Long Island City 1, New York

TRIPLE COMBINATION PUMPERS — 500 TO 2000 GALLONS . . . SQUAD WAGONS . . . CITY SERVICE AND QUADRUPLE COMBINATION LADDER TRUCKS

TRIPLE COMBINATION PUMPERS — 500 TO 2000 GALLONS . . . SQUAD WAGONS . . . CITY SERVICE AND QUADRUPLE COMBINATION LADDER TRUCKS
APPARATUS

Firemen

Volume 16 Number 5

WARREN Y. KIMBALL, EDITOR
OWEN L. DELLA LUCCA, ASSOCIATE EDITOR
CHARLES S. MORGAN, ADVERTISING MANAGER

Published monthly for the fire service members of the

NATIONAL FIRE PROTECTION ASSOCIATION

A VOLUNTARY NON-PROFIT ORGANIZATION
60 BATTERYMARCH ST., BOSTON 10, MASS.

PERCY BUGBEE, GENERAL MANAGER
ROBERT S. MOULTON, TECHNICAL SECRETARY
HORATIO BOND, CHIEF ENGINEER

Contents for May 1949

	Page
St. Anthony's Hospital Fire, by James K. McElroy	6
Program for 1949 NFPA Annual Meeting	7
The Fire Department of Berlin	8
D.C.F.D. Pump School, by Battalion Chief A. M. Gunwell	10
Recent Fires	12
Making a Good Job of It. Relative Area and Flow Capacity of Fire Hose, by Warren Y. Kimball	13
Does Fire Prevention Lag Behind Health and Crime Prevention? by Chief W. J. Taylor	14
Instructions for Smoking in Bed	15
The Story of a Rural Fire Protection District, by Andrew W. Alaways	18
Membership Report	20
Livonia Township Fire Department	20
Navarre, Ohio, Fire Department	20
Fire School Dates	21
Fire Prevention Award	22
Ontario Fire Departments to Get Financial Aid from Province	22
Training and Study Program of Richmond, California, Firemen, by Chief H. J. Schmidt	24
Report on German Fire Equipment	25
Cleveland, Ohio, Suburbs Organize Mutual Aid, by Irv Leiberman	26
Variety of Tasks Spices Life of Dallas Firemen	27
Manufacturers' Announcements	30

THE cover photo (Acme) shows an aerial view of the ruins of St. Anthony's Hospital at Effingham, Illinois, where 74 persons perished in a fire shortly before midnight on April 4. The 60-year-old brick-walled, wooden-joisted interior, hospital structure was without automatic sprinkler or fire detection equipment when flames which had terrible headway before discovery, engulfed the structure. There was little opportunity to use outside fire escapes due to the belated discovery as flame-filled corridors trapped occupants in their rooms or wards.

The hospital was operated by the Roman Catholic order of St. Francis and the hospital chaplain and several sisters of the order lost their lives along with patients under their care. A report on the fire by James K. McElroy, Assistant Technical Secretary of NFPA, who made an on-the-scene investigation, appears on page 6.

A RECENT issue of *Public Management* magazine published by International City Managers Association, contained a study of five small cities using the same paid personnel for both police and fire duty. These communities and their population are given as: Grosse Pointe Shores, Mich. (801); Huntington Woods, Mich. (4,200); Montreal-East, Que. (5,000); Oakwood, Ohio (7,652); and Sewickley Heights, Pa. (748).

These are all largely residential suburbs with scarcely sufficient population to justify or support an adequate full paid fire department and with relatively few fires. Also in such communities it is sometimes difficult to obtain sufficient call or volunteer firemen during the daytime to provide adequate help for the paid fire apparatus drivers. *Public Management* magazine describes in detail how the police-firemen rotate from police to fire duty, how they are given frequent intensive training in both arts. There are, however, many questions not answered such as the following:

1. Who provides and pays to keep the Police uniforms clean? Firemen know that fire fighting is dirty business and that it is impossible to wear dress uniforms and fight fires. It is bad enough to get the smoke off of a dress uniform as a policeman may have to do after making a rescue early in a fire, but the wet soot that goes right through to the fire fighter's skin after a few minutes at the nozzle would make a $75 serge uniform look like less than 75c worth of old rags. That may be O.K. if the village is willing to pay the bill.

2. Who directs traffic to keep access open for apparatus and emergency vehicles, and who keeps the crowds back when the police are at the nozzle?

3. Who rushes the injured to the hospital in the squad car while the "cops" are chopping a hole in the roof for ventilation?

4. Who maintains radio contact with the dispatcher's office? In small communities where fire departments are dependent upon police radio service for communications the use of police car crews as firemen may delay vital messages.

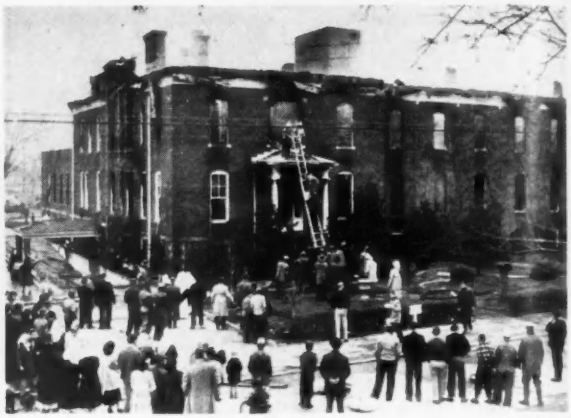
5. Who protects the property of the community during even a small fire? It is well known that the confusion of a fire invites law violations such as breaking and entering while the police are engaged at the fire. The fact that only five out of 15,000 fire departments operate on a combined basis with the police indicates that, in general, these questions have not been adequately answered. However, admittedly something must be done to augment the paid fire apparatus operators in small communities where few volunteer firemen are available in the daytime because they work in nearby cities. Nevertheless, this column seriously doubts whether making hosemen and laddermen out of patrolmen can ever provide a satisfactory degree of protection.

Where then, can the average small suburban fire department get the auxiliary help it needs? This requires a survey of all men in the village between the ages of 20–45, or even older if they are in good physical condition and have had some fire fighting experience. Such men will include various town or village employees such as highway, public works, water crews, tree wardens, milk and other delivery men, municipal officials such as the village manager or clerk.

Fire duty is a job that no citizen in good health should be allowed to shirk in such cases. Caretakers of large estates and shopkeepers who can snap a lock on the door to answer infrequent fire calls should be enrolled. In many small communities clergymen make enthusiastic volunteer firemen.

Where fire calls are infrequent, except during very dry seasons such as the spring and autumn brush fire seasons, it is often desirable to hire two or three men on an hourly or per diem standby basis to aid the regular fire apparatus operators.

Wide World



Wide World

ST. ANTHONY'S HOSPITAL FIRE

By James K. McElroy, Assistant Technical Secretary, NFPA

"We didn't have a chance!"

CHIEF Frank Wilkins and every man in the Effingham, Ill., Volunteer Fire Department, well trained and equipped to handle fires unless faced with impossible odds, constantly reiterated that statement following the St. Anthony Hospital disaster, and firemen everywhere, who are familiar with their insurmountable task, will agree.

The photograph (top left) was taken approximately 20 minutes after Assistant Chief Charley Chamberlain arrived on the scene following a telephoned alarm received at the Fire Station at approximately 11:45 P.M., April 4, 1949. Some idea of the horrible choice which always faces firemen arriving at the fire ground to see flames already passing through the roof can be obtained from verified information that patients and occupants already were at the windows screaming to be saved two minutes following the receipt of the alarm at fire headquarters.

The photograph (top right) taken at 6:30 A.M., April 5, offers gaunt evidence that nurses and attendants, on duty 24 hours a day in hospitals throughout the world, do not by themselves guarantee security to their patients from the peril of fire.

Rev. C. C. Sandon, the hospital chaplain, died in his room, trapped by the rapid spread of the fire. Sister Eustasia, who smelled smoke at her duty station on the third floor and reported it, died in the fire. Nurse Fern Riley, who had eleven babies in the second floor nursery in her care (and had but to step to safety on a fire escape outside the window of the nursery), died at her post. Frank Reis, beloved hospital Chief Engineer (who raced from his home 100 yards distant to the basement corridor at the laundry chute was last seen fighting the fire with extinguishers), died in the fire, probably in an effort to reach his wife who had entered the hospital as a patient a day or two before and who jumped from a third floor window, fracturing her back. Of at least two members of patients' families who were bedside watchers, one died in the fire.

In all, of 128 persons known to be present in the hospital at the time of the fire, 54 escaped, of whom 15 suffered injuries. At the last report there were 74 known dead, 30 of them were aged or infirm patients undergoing treatment on the third floor.

The gutted building with its unused exterior fire escapes and slide escapes, is mute testimony to the inherent hazard in multi-story combustible hospital construction with combustible open stairwells, laundry chutes, and ceilings of open corridors finished six years ago with combustible fibre board sound proofing materials and an oil cloth covering for the side walls. When these deficiencies were combined with lack of provision for immediate discovery and extinguishment of fire in the incipient stage the results were disastrous. The original building was built in 1876, 2½ story brick wood-joist, with wood lath and plaster interior finish. A similar 3-story brick, wood-joist building was added in 1912. In 1924 a 1-story surgery with concrete floor and combustible roof was added and but slightly damaged in the fire. The boiler room was undamaged. Its roof structure is concrete on exposed steel beams. The adjoining maintenance shop and the laundry have an open wood joist roof structure and the laundry only was slightly damaged. Like the LaSalle, the Canfield and the Winecoff Hotels, the St. Anthony Hospital was, for a great many years, vulnerable to the loss of life and property which occurred on the night of April 4.

The exact cause of the fire may never be known. All those who could have provided assistance in answering the question died in the fire. Common or special hazards usually present in hospitals were not directly involved in the fire. The origin of the fire can be placed with reasonable accuracy in one of the two combustible laundry chutes which extended from the basement to the top floor in the front wing of the building. Smoke was first noticed in the patient wing of the third floor and reported to the telephone operator, who in turn called the Chief Engineer, the convent and the fire department. Several nuns, the Chief Engineer and others converged on the laundry chute at the basement opening into it. Four discharged soda and acid extinguishers of 28 distributed throughout the hospital were found in rubble nearby the remains of the laundry chute in the basement. At least one of the four is known to have been used in an attempt to extinguish the fire at the chute opening on the first floor. So far as is known, the available standpipe and hose system in a nearby corridor was not used.

The Effingham Fire Department (NFPA member) is recognized by all familiar with its training and effectiveness as a well-qualified organization. Several of its 22 members, 6 of whom are employed by public utilities firms, have been regular in their attendance at the Illinois State Fire College for a great many years.

The apparatus immediately available for use at the fire included a 750 gpm pumper with adequate hose, 50 ft. aluminum ladder, 28 ft. ladders and other equipment. In addition, a 500 gpm pump with adequate hose on a commercial chassis, and a 500 gpm O.C.D. pump were used at the fire. Not long ago the department purchased and equipped a panel truck with rescue equipment, oxygen masks, asbestos clothing, etc. The department equipment and water supply is believed sufficient to cope with almost any fire emergency except that which Chief

Continued on page 26

Program for 1949 NFPA Annual Meeting

Fairmont Hotel, San Francisco, May 16-19

THIS month for the first time in 28 years an NFPA Annual Meeting is to be held on the West Coast. This is an event that no alert fire department will want to miss. From the program below, it may be seen that at times as many as three separate sessions on differing phases of fire protection will be conducted simultaneously. Fire departments should detail members to attend sessions to bring back first hand reports on recent developments in fire protection.

MONDAY, MAY 16, 1949
(Simultaneous sessions morning and afternoon)

Fire Marshals' Section
An all-day meeting for discussion of subjects of particular interest to fire marshals, including flammable fabrics and flame-proofing, fire prevention education, firemen's training by state fire marshals, developments in LP gas, self-service and coin-operated gasoline stations, control of smoking hazards.

Railroad Section
All day meeting including discussions of various fire protection problems.

Committee Meetings
Several committees and related organizations will meet during the day.

MONDAY EVENING, MAY 16

General Session
Address by President John L. Wilds. Board of Directors report by Chairman George W. Elliott. Other outstanding speakers will include General Manager Percy Bugbee; Jay W. Stevens, National Board of Fire Underwriters, San Francisco; and Gayle W. Arnold, National Security Resources Board, Washington.

TUESDAY MORNING, MAY 17
(Three simultaneous sessions)

Electrical Section
Section will consider reports of National Electrical Code Committee panels proposing amendments to the National Electrical Code as transmitted to the Section by the Electrical Correlating Committee.

Extinguishing and Alarm Group Session
Action on committee reports, including new specifications for pumpers, ladder trucks and other fire department equipment, signaling systems, standpipes, complete new standards on Foam Extinguishing Systems, tentative Standards on Wetting Agents, revised Standards on Tanks, informative report on the use of vaporizing liquids for extinguishing purposes.

Fire Marshals' Section
Civil Defense, Hotel Fire Safety, Election of Officers.

TUESDAY AFTERNOON, MAY 17 (5-7 P.M.)

Public Fire Protection Forum Session
Addresses by Chief Henry Chase of Miami, President of the International Association of Fire Chiefs, and Chief John H. Alderson of Los Angeles.
Round table on costs of public protection with speakers representing the points of view of taxpayers, city managers, fire departments, insurance organizations, and Chambers of Commerce.

TUESDAY EVENING, MAY 17

An entertainment program for which our San Francisco members will be hosts.

WEDNESDAY MORNING, MAY 18
(Three simultaneous sessions)

Public Information Group Session
Reports and discussion on Fire Prevention Week and clean-up campaign, Public Relations, Fire Prevention Education in Elementary Schools, Firemen's Training, Libraries, and Museums, Fire Casualty Statistics.

Transportation Group Session
Reports and discussion on various phases of aviation fire safety with action on standards proposed by the Committee on Aviation and Airport Fire Protection.
Discussion on marine fire protection problems with a report outlining the program of the new NFPA Marine Committee and technical papers on important subjects in this field.
Committee reports and discussion on truck transportation and transit operations, including buses.

Special Hazards Group Session
Revisions in Standards on Prevention of Dust Explosions in Terminal Grain Elevators and Country Elevators presented for discussion and action. Explosion Venting, informative progress report. Magnesium, committee report covering storage safeguards. Spontaneous Heating — properties of new products. Finishing Processes, including paint spraying and spray booths. Pyrotechnics, committee report proposing amendment of NFPA model law to permit toy cap pistols. Air Conditioning and Blower Systems, Amendment of Standards. Farm Fire Protection, informative report submitted for discussion.

WEDNESDAY AFTERNOON, MAY 18

An afternoon boat excursion in San Francisco Bay to see points of interest. A demonstration of methods of controlling liquefied petroleum gas fires will be included.

WEDNESDAY EVENING, MAY 18

A motion picture program showing new technical and educational films in the field of fire protection.

THURSDAY MORNING, MAY 19
(Three simultaneous sessions)

Flammable Liquids and Gases Group Session
The Committee on Flammable Liquids will present recommendations for NFPA action on self-service gasoline stations and automatic gasoline nozzles. Other subjects for discussion include general features of gasoline and oil storage, dry cleaning plants, oil burning equipment, labeling of containers of flammable liquids, developments in liquefied petroleum gas installations, and combustible anesthetics in hospital operating rooms.

Industrial Fire Problems Group Session
A new pamphlet on Fire Brigades presented by the Committee on Fire Brigades and Watchmen for discussion and official NFPA action; speakers on atomic hazards in fire fighting and on several special industry problems.

Building Construction and Warehousing Group Session
The Committee on Safety to Life will present for discussion and action proposals for amendments to the Building Exits Code including new alternative methods for the protection of moving stairways, alarm systems for life safety, hospital fire safety, etc. Other subjects include action on revised standards for Grandstands, Tents and Other Places of Outdoor Assembly, revisions in the Standards on Fur Storage, Protection Against Lightning, Storage of Combustible Fibres.

THURSDAY AFTERNOON, MAY 19

Ratification of Action of Group Sessions.
Reports of Electrical, Fire Marshals and Railroad Sections.
General interest speakers on new developments in fire protection.
Election of Officers.
Adjournment.

FRIDAY, MAY 20

Various optional sight-seeing excursions will be available for those who remain in San Francisco on Friday.

The Fire Department of Berlin

It has been popular to unfavorably compare American cities to European cities in the matter of their fire records. It is less well understood that the medieval European city was like ours today — largely of wood. The cities repeatedly suffered sweeping fires and the superior construction of today is due in large part to the fact that the combustible construction was eventually burned up. It was gradually replaced with the superior construction which is now evident. This process required hundreds of years.

Most of the cities also had a long history of struggle to build up modern fire departments. Professional paid fire departments were a relatively late development, the first, in Vienna, being established in 1686.

Berlin was a relatively late city in the European area, founded in 1230. It too had great fires, in 1380, 1484, 1581, 1809 and 1843. Its organized fire service dates from 1851 according to a summation of Berlin's fire service history prepared for John P. M. Schmidt, Chief, Fire Control Section, Public Safety Branch of the U. S. Army in Berlin. Chief Schmidt, on leave from the Evanston, Illinois, Fire Department, included in his report of 15 February, 1949, to the Office of Military Government (U. S.) some of the following interesting facts about the Fire Department of Berlin.

ON 16th January 1851 the Minister of the Interior, v. Westphalen, decided that the fire fighting system, which up to then was not organized, be under a central supervision. This supervision was taken over by the Royal Police Presidium, under the direction of the Regierungsbaumeister, Oberspritzenkommissar Scabell, who was appointed Branddirector (Fire Chief). When Scabell took charge of the newly organized Berlin Fire Brigade the following equipment was housed in twenty-eight fire houses, eight of which had men on night duty:

45 hand pumps including 7 boat pumps
5 royal pumps
1 steam pump
7 mechanical ladders
49 ladders (various lengths)
549 mounted water barrels (on wheels)
535 mounted water barrels (on snow runners)
Several hand pulled vehicles carrying the necessary equipment (small appliances, tools, etc.)

The pumpers, some of which dated back to the eighteenth century under Friedrich the Great, had the usual water box; however no suction hose could be used.

The eight fire stations featuring night duty for firemen had among their equipment, hand pressure pumps, two hook ladders, one rescue sack (net) and a hose roll of three sections of leather hose with a total length of fifty meters (over 155 ft.). Connected to the pumps were barrels on wheels each containing about one-third cubic meter of water. Distributed throughout the city were large barrels filled with water, for fire extinguishment purposes.

The mechanical ladders of that time were for rescue work, and needed ten men to operate them. This ladder was very difficult to handle as it could not be turned and required three minutes to raise it to a height of 61 feet.

The great problem in those early times was the water supply as all water had to be drawn from wells, which was not adequate for the hand operated pumps. For fires near a river, the fire boats were available to meet the water supply demand.

This original fire brigade of Berlin was part paid. Members received a small monthly salary. In the event they could not answer an alarm, they were obliged to send a replacement and personally pay for his services. The brigade was composed of local businessmen and laborers.

The signal man who gave the alarm by blowing on a horn, had one of a low tone for fires on the left hand side of the Spree River and one with a high tone for fires on the right hand side of the River.

This did not work satisfactorily, due to street crowds out to see the fire causing delays so that firemen arriving on the scene very often found nothing but burning embers remaining.

To offset this, Scabell reorganized the fire brigade and created the Berlin Professional Fire Brigade, who were supplied with new and better fire fighting equipment and uniforms of military type with leather helmets and a leather tool belt.

Personnel of the then newly organized Professional Fire Brigade consisted of:

1 Branddirector (Officer)
1 Brandinspector "
4 Brandmeisters "
40 Chief firemen
180 Firemen
360 Pump and water men

Drill towers were constructed and a regular training schedule laid out.

Another addition to the Berlin fire protection set-up by Scabell was an alarm system, built by the firm Siemens & Halsko, which connected the main headquarters with each of the outlying stations.

Until 1875 only leather fire hose was used although experiments had been made of hemp and rubber lined hoses.

Electric drive fire engine platoon of Berlin Feuerwehr, 1908, including equipment truck, pumper, and turntable ladder.

Alarm System Installed

In the year 1875 Captain Witte succeeded Scabell, as Branddirector. By the year 1880 Witte had installed a fire alarm system in Berlin, consisting of 121 private and 32 public fire alarm boxes. The water supply was improved by the installation of larger water mains. This resulted in better water pressures, however water barrels were still a regular part of fire equipment for emergency reasons.

Witte also adopted the use of steam operated pumps, as well as inventing a new type of mechanical fire ladder on the telescope principle and mounted on a

Old German smoke protection suit with bellows operated air line and self cooling system. (Note photographer shows water from a dry line?)

turn table to give it maneuverability, which remained as standard equipment until the year 1897.

In 1886 when Witte was pensioned the fire brigade had 116 horses and 117 men.

In 1887 Oberbranddirector Stude, a former Branddirector for the City of Bremen, took over the duties of Berlin. Under him the program was continued and a greatly improved fire alarm system, fire prevention bureau, the introduction of the Storzcoupling, which replaced the Grether-Witte hose coupling and the change over to Hoenig-Magirus ladder equipment, was carried out.

The next Oberbranddirector was Giersberg, a former Brandinspector of the Cologne fire department. Under Giersberg the Berlin fire brigade observed its 50th anniversary and the City was host to an international fire exhibition. One American exhibit at this anniversary affair was the Gamewell fire alarm system. An installation at Schoeneberg at that time, is this day in operation and in perfect condition.

Oberbranddirector Giersberg was succeeded by Herr Reichel, who had served under Herr Stude in 1887–1895 as technical engineer and at the time of his appointment was a member of the Hannover fire brigade.

First Motorized Equipment, 1908

The first motorized equipment was placed in service on 14 September 1908. The first gasoline motor apparatus was placed in service in 1910. In 1920 Greater Berlin was incorporated. This included the neighboring towns of Schoeneberg, Charlottenburg, Steglitz, Zehlendorf, Wilmersdorf, Lichterfelde and others.

On April 1st, 1924 Oberbranddirector Reichel was pensioned and Brandinspector Gempp promoted to his rank. Under Gempp the double plattoon system of personnel rotation was adopted with the 24 hours on and 24 hours off duty for firemen.

It was not until 1924 under Gempp that the motor pumps were installed on fire boats, which up to this time were still hand operated. Foam apparatus became standard equipment for fire fighting trucks and the Berlin brigade was thoroughly schooled in this phase of fire fighting technique. The variable mixing nozzle was invented by firemen and although a bit bulky and awkward in appearance prove to be very serviceable.

In April of 1933 Oberbranddirector Gempp was released from duty for political reasons.

This was at the time that the National Socialist Party (NSDAP) took over power in Germany.

At the time of Oberbranddirector Gempp's release the personnel of the Berlin fire brigade was 1,891. These were located at 20 fire protection offices and in 37 professional fire stations. In the 58 volunteer brigades at the outskirts of Greater Berlin 1,800 additional volunteer firemen were available for service.

The N.S.D.A. Party appointed Branddirector Wagner to the post of Oberbranddirector in 1933. In 1934 many of the worn out gasoline operated pumpers were replaced with diesel motor trucks.

By 1936 an order from the Government forced civilians to be trained in fire fighting technique. This was under the supervision of the police and was compulsory.

About this same time the Air Ministry procurred the following vehicles for the fire brigade:

146 motor pumps (2,500 liters, 687 gallons, per minute each)
75 motor pumps (1,500 liters, 395 gallons, per minute each)
138 motor pumps (800 liters, 210 gallons, per minute each)
18 Caterpillar pumpers 2,500 liters (687 gallons) per minute capacity
71 hose trucks
6 new mechanical ladder trucks (46 meters, 150 feet, each)
113 cars
319 motorcycles
143 decontamination trucks
168 trailers for pumps
2 generator trucks
1 telephone construction truck
6 trailers for hose rolls
24 trailers for emergency water main pipes
48 bicycles

The fire brigade then had 2,453 members with an additional 3,000 men of the so-called air protection police, housed at the 37 professional fire stations and in 147 newly erected stations.

It was at this time that the fire brigade personnel received military ranks. Wagner was promoted to General Major in 1940 and the training of firemen was changed to marching drills and the use of military weapons.

When Wagner tried to stop this type of training he was immediately pensioned and replaced by General Major of Police Goldbach as commander on 1st November 1943. During the war personnel and equipment was transferred from one city to another as the need arose and the organization was in complete chaos.

Berlin firemen's uniforms, 1800 to 1918.

Chief Faces Firing Squad

Shortly before Berlin capitulated Goldbach gave the order for the fire brigade to leave Berlin towards the West in order to keep the equipment from falling into the hands of the Russians. He acted here in opposition to the orders he had received from his superiors and for this was sentenced to death by a firing squad.

Of the professional fire stations, six were totally destroyed and all others severely damaged by bombing. Most of the firemen then on duty were made prisoners of war by the Soviets.

As all available apparatus was confiscated by the Russians those men remaining on duty after the capitulation were reduced to fighting fires with hand equipment drawn to and from fires with the aid of hand carts. This new fire brigade was headed by a former Brandmeister, Herr Feierabend who, for political reasons had to leave the fire department in 1933.

Help in reorganizing the Berlin fire brigade came exclusively from the Western Powers, who caused to have returned to Berlin all equipment which had been driven off shortly before German capitulation.

The close of hostilities saw the complete destruction of the fire alarm and communication system.

Trouble with Reds

December 1, 1948 saw the split of the Berlin fire brigade, brought about by the previous arrest of two leading fire officials and the confiscation of fire department vehicles by the Soviets.

Subsequent charges against the pro-Russian Feierabend led to his dismissal in December 1948, after which he was installed as Chief by the Soviets in their Sector.

The duties of Oberbranddirector are presently in the hands of Herr Lipstreu, the former Branddirector.

Instruction in drafting water at D.C. Fire Department Pump School. Fireboat William T. Belt in background. School is located at former U. S. Coast Guard pier in Washington Channel

Pump School personnel: Left to right Pvt. E. K. Sweeney; Sgt. A. M. Peel in charge of the School; Battalion Chief N. E. Bowen, DCFD Training Division; Battalion Chief A. M. Grunwell, Executive Officer, DCFD; and Acting Sgt. L. N. Balcom.

D.C.F.D. PUMP SCHOOL

by Battalion Chief A. M. Grunwell
Executive Officer, District of Columbia Fire Department
Member NFPA Committee on Firemen's Training

UNTIL Clement Murphy became Chief Engineer of the District of Columbia Fire Department, little had been done in our Department towards the training of pump operators. We had a good training program otherwise, but the training of pump operators was the responsibility of the Division of Apparatus. That division was not staffed or equipped for instructional purposes; therefore, this instruction was of necessity limited. As a result, we had to learn, for the most part, by the slow and sometimes expensive method of trial and error.

This lack of training became evident when pump operators were called upon to draft or to supply water for heavy stream devices where maximum performance is necessary, and was noted in the National Board of Fire Underwriters' report of 1941.

In order to get an accurate picture of the situation, the Chief Engineer requested Mr. Warren Y. Kimball, Engineer of the National Fire Protection Association, to conduct a series of tests with heavy stream devices similating, insofar as possible, problems that we would be confronted with under actual fire condition. These tests, among other things that have since been remedied, revealed the pressing need for further training of pumper operators.

The Chief Engineer took immediate action, appointing Battalion Chief A. M. Grunwell, then Captain of Engine Company No. 16, as chairman of a committee to set up a pump school. The men selected were Sergeant A. M. Peel and Privates L. N. Balcom, E. K. Sweeney and S. P. Shelton.

The first job of the committee was to develop a pump manual to be used as a textbook for the school and as a reference manual for the Department. The manual was compiled by the committee at the University of Maryland where Chief J. W. Just, Director, Fire Service Extension, made available his most complete library. In the selection of material, the committee used only authentic material from recognized sources.

Upon the completion of the pump manual, work was started on the pump school. The location selected was a building constructed by the Coast Guard on a concrete pier in the Washington Channel. This building had been taken over by the Fire Department to provide improved quarters and docking facilities for the fire boat company and was an ideal location for the pump school.

Remodeling of the building was begun at once by Battalion Chief M. H. Clarke, in charge of buildings and supplies, then a captain. The building was converted into quarters for the fire boat crew on the first floor and the pump school on the second floor. The resourcefulness of Chief Clarke resulted in the building being ready for service in an incredibly short time at a saving of thousands of dollars in public funds.

THE pump school is based on the premise that in the operation of machinery a man's ability and initiative can be fully exploited only if he understands the basic principle under which the machine operates. To put this theory into practice, it was necessary to acquire cut-away models of pumps, relief valves, pump accessories, etc. This presented a serious problem because we had no money available for such equipment. Some of the pump manufacturers were kind enough to lend us cut-aways of their equipment, but the major part of this problem was solved by the Division of Apparatus which converted otherwise unserviceable pumps, accessories, etc., into excellent cut-away models so arranged that by the operation of a crank, one can actually *see* how the pump or accessory works. It would be remiss if due credit were not given to the late Superintendent of Machinery, Ivan J. Dalstrom, whose unselfish cooperation and engineering skill contributed so much to the development of this school.

While the building was being remodeled, and while we were in the process of acquiring the necessary teaching aids, work was started on the development of lesson plans. Mr. W. A. Ross, Consultant of the United States Department of Education, and Chairman of the Firemen's Training Committee of the National Fire Protection Association, who conducts instructor training classes for the department, acted in an advisory capacity. His wide experience in this field is reflected in the efficient lesson plans that have resulted.

Upon completion the school became a part of the Instruction Division under Battalion Chief N. E. Bowen, Chief Instructor, with Sergeant A. M. Peel and Private L. N. Balcom as instructors. Because of the excellent job they are doing, these men have gained the respect and admiration of the entire department and are recognized as leaders in this field of instruction.

The Pump School was officially placed in operation on February 17, 1947. Since that date approximately three hundred members have completed the course, including all regular operators and many officers.

The course consists of five days of instruction on "Theory and Operation of Fire Department Pumps." Each day the learner receives instruction on a different type of pumper. The period from 8:00 A.M. to 12:00 M. each day is utilized for classroom work, during which time the group becomes familiar with the theory of pumping operations by means of charts, diagrams, photographs, cut-away pumps, and cut-away models of all accessories of the pumper, which they will operate in the afternoon. From 1:00 P.M. to 4:00 P.M. the class receives instruction in practical operation, at which time the pumper and various lay-outs are thoroughly demonstrated. Each member of the class is required to operate the pumper both from hydrant and drafting operation under various conditions. All accessories, such as auxiliary cooling units, governor or relief valves, transfer valve, priming device, and booster pump, are operated and demonstrated. The importance and functions of each are thoroughly explained. Capacity tests are conducted on each pumper and an accurate and complete record is kept on each pumping engine in the Department for future reference. All defects are reported to, and promptly corrected by, the Division of Apparatus. This helps keep apparatus in excellent mechanical condition. All pumpers in the Fire Department are rotated in use at the school in such a manner as to insure frequent check-up on its condition and performance, including a complete service test.

One of the high-lights of the course is an excellent address on Friday of each week by the Superintendent of Machinery. At this time he instructs the class on proper "Care and Maintenance" of pumping equipment. He relates, in detail, the causes of various breakdowns or apparatus failures, and explains how many of them might be prevented. He elaborates on methods and importance of lubrication, explains braking system, lighting system, etc., on different types of engines. This gives the men who operate the pumps an opportunity to exchange ideas with the man who is responsible for proper maintenance of all apparatus. It helps prevent many unnecessary failures or poor performance, and in many cases an expensive repair job may be avoided. This phase of instruction has proved to be very interesting and beneficial to the class. After five days of instruction and practical operation, together with the informative talk by the Superintendent of Machinery, each learner is familiar with every type of pumper used in the Department. This instruction is now being followed up by the company officers and the field instructors in their inspections of drills.

Eventually every member of the Fire-fighting Division will have attended the school. We believe that this type of training has long been needed in the fire service. It is interesting that Maintenance Division mechanics have also completed the Pump School course as a move to enhance understanding and cooperation with the Fire-fighting Division. Superintendent of Machiney William Boswell reports that the Pump School has greatly reduced breakdowns of apparatus by better operation and by detection of conditions needing attention before failure occurs.

No project of this kind can succeed without the courage to overcome the obstacles and stubborn opposition that such an undertaking inevitably meets, nor can it succeed unless one has the intelligence to realize that no one person could possibly know all the answers, and must, therefore, seek and accept the advice of recognized authorities in the fields upon which such a project touches. In this connection, Mr. Kimball, of the National Fire Protection Association, acted as general advisor and through his efforts we received advice and help from such eminent men as Mr. W. A. Ross, Chief J. W. Just and others whose help contributed so much to the success of this project.

We hope that this school will continue to develop and lead the field in this type of instruction. Our department also has a special training course in the operation and handling of modern power operated 100 ft. metal aerial ladders of which we have 16 in service, but that is another story.

The one week course follows this outline:

Monday
- Readings with Pitot tube
- Operating cooling systems
- Setting pressure regulator
- Using rotary vane priming pump
- Operation of Seagrave pump

Tuesday
- Principles of pumping
- Suction lift
- Reading gauges
- Setting governor
- Operating small line
- Operation of Ward-LaFrance pump

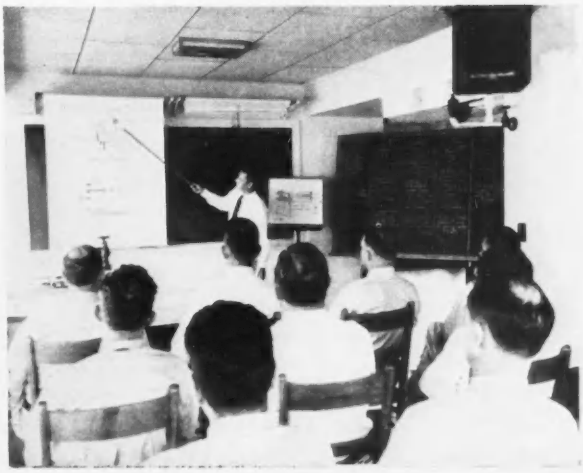
Wednesday
- Positive displacement pump
- Pulsator
- Using churn valve
- Reading tachometer
- Setting automatic relief valve
- Operation of American-La France pump

Thursday
- Centrifugal pumps
- Priming
- Series — parallel
- Setting the combination relief and manual church valve
- Operation of Pirsch pump

Friday
- Pumping to ladder pipe.
- Instruction by Division of Apparatus

Ship-shape classroom, with cut-away models of pumps used by the Department At right is equipment for demonstrating principles of pump suction

Sgt. Peel uses large charts to explain theory of pump operation at morning session. In the afternoon operations are conducted outside. Program for week is given on blackboard.



RECENT FIRES

A few of the many serious or interesting fires that occurred during March 1949.

March 8. Edmonton, Alta. *Wm. Kensit*
Fire starting before midnight extended from 4th to 6th floors of this unsprinklered reinforced concrete hardware warehouse causing $1,673,273 loss.

March 12. Marietta, Ohio. *Acme*
Fire starting in basement trash room of 80-year-old wooden frame Student Union Building at Marietta College had extended through partitions to attic when discovered by occupants at 4:56 a.m.

March 28. Seattle, Wash. *Acme*
Sparks from an acetylene torch set fire to this creosote treating plant resulting in $110,300 loss. Absence of roadways and low tide kept land apparatus and fireboats 500 ft. from fire. Only drop in wind and sprinkler protection of an exposed building, saved other buildings of plant.

March 5. Milton, Ore. *State Fire Marshal*
Fire discovered after 1 a.m. swept through three connected buildings of a frozen food processing plant including a 3 story reinforced concrete structure. Fire fighters had difficulty in saving other large plants nearby. Loss: $387,000.

March 16. Danville, Va.
An old oil cook stove used for heat exploded spreading fire through large area 1 and 2 story brick plank and timber, tobacco warehouse with $385,000 loss. Firemen saved seriously exposed buildings with 14 hose streams.

March 9. Ogdensburg, N. Y. *Acme*
Fire starting in the boys' locker room drove out 180 occupants of the Sherman Public School and caused $80,000 loss.

March 21. West Bridgewater, Mass. *Stanley A. Bauman*
Some 265 pupils escaped when this high school fire started in the attic. High wind and lack of water prevented effective operations by numerous fire companies, several of which pumped from a river to protect exposures. Loss: $515,000.

March 15. Oakland, Calif. *Acme*
Fire destroyed a 1,000 ft. long, wood frame transit shed on Pier 4, Oakland Army Base with $2,000,000 loss. Despite the fact that workers were unloading ships a few minutes prior to the fire, the entire shed was involved when the alarm was given. Twenty-three Army, Navy, and city fire trucks and 11 fireboats and tugs fought the fire.

March 21. Endicott, N. Y. *Wide World*
A 6,000-seat capacity grandstand at "En-Joie" stadium was destroyed by a fire which threatened the Union-Endicott High School.

March 23. Minneapolis, Minn. *Wide World*
A "fire sale" which followed a blaze last October was still in progress when flames attacked the basement of this shoe store.

March 6. Farmville, Va. *Acme*
Because of the odor of smoke, students were moved from this dormitory and auditorium structure at State Teachers College the night before, and an electrician was called to check the wiring. When firemen were notified at 6:15 a.m. they had a terrific fight to save two other buildings within 20 ft. of the destroyed building. Loss: $350,000.

MAKING A GOOD JOB OF IT

BY WARREN Y. KIMBALL

Relative Area and Flow Capacity of Fire Hose

THE subject of relative area and carrying capacities of the larger sizes of fire hose used by fire departments is not always understood adequately. It may be difficult to look at the outside of a line of double-jacketed cotton rubber lined fire hose and estimate its relative efficiency as a conductor of water for fire streams. Accordingly, on this page are shown, in square inches, the internal areas of standard large sizes of fire hose.

It should be noted that the so-called 2½-in. fire hose actually has an internal diameter of $2\frac{9}{16}$-in. or approximately 5.16 sq. in. area, rather than the 4.9 sq. in. area of a 2½-in. circle. The figures on this page ignore any expansion of hose under internal pressure.

It will be seen from the figures in red at the bottom of each box, that the 3-in. hose is much superior to the 2½-in. hose at any given flow, although it is only $\frac{7}{16}$ths of an inch greater in diameter. The 3½-in. hose has nearly twice the area of the 2½-in. hose with less than an inch added to the diameter.

The 3½-in. hose is used extensively in connection with lines from fireboats and from direct pumping high pressure fire main systems. Among the larger cities using 3½-in. hose are: New York, Chicago, Philadelphia, Los Angeles, Detroit, Boston, San Francisco, and Toronto. Cities using 3-in. hose include: New York, Chicago, Detroit, Cleveland, Baltimore, St. Louis, Boston, and Washington. All of these cities also use 1½-in. and 2½-in. hose except that San Francisco uses 2¾-in. hose with 3-in. couplings instead of the less efficient 2½-in. size.

The upper table on this page shows the number of feet that a given flow of water must travel in various sizes of hose to cause a friction loss of 100 pounds per sq. in. Of course, some hose may be somewhat more or less efficient than these typical test figures indicate.

LET us assume that a pump is discharging 600 gpm at 120 psi through two lines (300 gpm each) and that we have a little over 40 psi nozzle pressure. The slightly less than 80 pounds available for friction loss will carry the 250 gpm through about 350 ft. of 2½-in. hose on level ground. But if we use 3-in. hose with the same pump pressure and the same nozzle pressures we can deliver the water through two lines 1,000 ft. long, an added efficiency of 650 ft. of line by increasing the diameter of the hose less than ½-in.

This fact should be of importance to small fire departments having limited pumping capacity and frequently faced with the necessity of pumping through lines more than 500 ft. long. Using 2½-in. hose a 500 gpm pumper can usually supply one 1,000 ft. line at 250 gpm flow. Using 3-in. hose a 500 gpm pumper can supply two 250 gpm streams 1,250 ft. from the pump. Thus the effective range of the 500 gpm pump is more than doubled by use of the 3-in. hose. The former objection that 3-in. hose is too large for use indoors is no longer valid now that most departments use 1½-in. leaders for inside work.

Even where only 500 ft. of 3-in. hose is carried, at 300 gpm flow, the pressure loss is reduced 65 lbs. Some departments use 3-in. hose for the first 100 ft. from the pump resulting in 10 to 14 psi reduction in pressure loss.

Approximately 100 PSI Friction Loss Will Result When Moving the Quantities of Water Indicated in the First Column the Distances Listed Under the Three Large Sizes of Fire Hose. (Disregarding Nozzle Pressure)

Flow	2½-in.	3-in.	3½-in.
300 GPM	471 Ft.	1220 Ft.	2703 Ft.
400 GPM	276 Ft.	709 Ft.	1585 Ft.
500 GPM	182 Ft.	471 Ft.	1054 Ft.
750 GPM	—	222 Ft.	496 Ft.

(Square Inches)

Area 2½-in. Fire Hose
5.16 Sq. in.

Pressure Loss per 100 Ft.

300 GPM — 21.2 PSI
400 GPM — 36.2 PSI
500 GPM — 55.0 PSI

2½-in. nominal diameter

Area 3-in. Fire Hose
7.07 Sq. in.

Pressure Loss per 100 Ft.

300 GPM — 8.2 PSI
400 GPM — 14.1 PSI
500 GPM — 21.2 PSI

3-in. nominal diameter

Area 3½-in. Fire Hose
9.62 Sq. in.

Pressure Loss per 100 Ft.

300 GPM — 3.7 PSI
400 GPM — 6.3 PSI
500 GPM — 9.5 PSI
750 GPM — 20.1 PSI

3½-in. nominal diameter

Does Fire Prevention Lag Behind Health and Crime Prevention?

By Chief W. J. Taylor
Fire Dept., Burbank, California

Most municipal officials are already sold on the need for fire prevention work because they know that to neglect this activity helps to defeat the purpose for which the fire department exists. Yet there is a tendency in most cities to neglect bringing prevention into balance with fire fighting. There are still many municipal officials who do not realize that fire prevention is just as important as fire fighting. Fire fighting is very costly, and the point is very rapidly approaching, and in many cities probably has already arrived, when additional expenditures for fire equipment will give little substantial return. This is not true, however, in the field of fire prevention, and in this respect most fire departments are much behind the health and police departments in prevention work.

THE main purpose of a health department is to prevent disease, and likewise, a police officer by his mere presence is a deterrent to crime. Firemen still sit in the fire station waiting to be told of fires they could easily prevent. A large portion of fire loss may be traced to the absence or the inadequate character of preventive measures. The purpose of fire prevention is to lessen the important factors which contribute to the occurrence and spread of the fire; the physical hazard, the occupational hazard, and the moral hazard. Various means must be employed by the city to obtain this end. There should be a fire prevention bureau. The city should be zoned for the use of buildings and land. There should be careful inspection of buildings and rigid investigation of fires by firemen. The basis for such activities must be laid in laws and ordinances. Thus authority for fire prevention is based upon the police power inherent in the State to regulate persons and properties for the safety of the public, and this power is delegated by the State to municipalities.

Fire prevention, therefore, basically involves restriction and regulation, a negative rather than a positive attitude which might have the effect of inciting opposition. However, as fire prevention restrictions should only be imposed on a basis of sound engineering practices which are, in brief, a compliance with natural laws, most fire prevention bureaus can be readily sold on a common-sense educational basis, and the matter of compulsion seldom be used unless the property owner is really uncooperative. Perhaps 75 percent of the fire losses can be prevented if carefully drafted regulations are imposed and enforced.

Chief W. J. Taylor

The American people generally have followed the "catastrophe theory" of reform. Unfortunately many laws are enacted only following some calamity and are usually hastily drawn. For example; after 175 children lost their lives in a school house fire in Ohio in 1908 many cities wrote into their local laws improved requirements for school house construction and fire drills. The Iriquois Theater fire in Chicago in 1903 caused many cities to adopt suitable requirements for exits in theaters and the protection of audiences by fire-resistive curtains and automatic sprinklers on stages. Cities of our State are emphasizing changes in the building laws to permit buildings which will resist earthquakes following earthquake experiences in this part of the country. The loss of 125 lives in the Cleveland Clinic fire in 1929 led many cities to adopt restrictions on the storage of nitrocellulose X-ray film. The Cocoanut Grove night club fire in Boston in 1942 brought many reforms of a fire preventive nature in this type of occupancy. The Hartford circus fire brought about reforms in canvas and fabric flame-proofing which has been of great importance to the fire service. The LaSalle Hotel fire in Chicago and the Wynecoff Hotel fire in Atlanta have demonstrated to us the need for more adequate protection of the traveling public in hotel occupancies.

How much better it would be if we studied the problem of safety in advance of catastrophe and then calmly, without haste, draft laws for the control of such hazards. To deal with the problem ahead of a probable calamity is like locking the barn before the thieves arrive. Laws and regulations for fire safety fall into two general classes: one, those which relate to buildings, and two, those which relate to hazardous materials and machinery used in buildings. It naturally follows that the regulation of building construction is covered by the Building Code, administered by the Building Department; and fire hazards are covered by a Fire Prevention Code administered by the Fire Department. The problem, therefore, is to develop a reasonable division of functions between two general codes making this as specific as possible and to arrange suitable coordination of administration. The Building Code also covers many items of a fire preventive nature that is applicable to the building after its occupancy for which the Building Department makes no inspections. The advantage of a fire prevention code is that it brings together all municipal ordinances dealing with this subject in one book or pamphlet which makes for ready reference and ease of enforcement. Such a code is necessary for effective regulation of fire hazards and to give proper authority to fire officials. The absence of legal backing where there is no code is an inducement to neglect many hazards. A study of the ordinances relating to fire prevention in most cities reveals that they are incomplete or obsolete and that they should be brought up-to-date, made more comprehensive, codified, and actively enforced.

A PERSON is liable for damages to his neighbor's property from a fire which spreads from his own premises where such a fire is the result of his negligence. In the United States there is no general practices for persons injured by a neighbor's fire to apply the common law principle through a suit against the person in whose property the fire started. It has been human nature to take the attitude that the person who has had the fire is punished enough by the misfortunes of the fire itself. Also the general use of fire insurance has served to make the seriousness of his offense less apparent, as through insurance the burden of the loss is not placed directly on the shoulders of one individual but is spread out to be paid by the country as a whole. Under such circumstances, the person has been obscured, and carelessness and irresponsibility thus condoned. The National Fire Protection Association and other organizations urge their members to induce persons injured by fire from negligence to bring suits under the common law. Every such case that is tried would have an educational value promoting the type of discipline so important to the prevention of fires. A conflagration is a public calamity and it may be started by a small fire caused by some unsafe condition. As a part of fire prevention work such conditions are nuisances and demand correction.

For many years intelligent and progressive fire department officers have been making inspections of buildings long before fire prevention work became an established part of their job. They realized that it was little short of folly to take their men to fight fires blindly without knowledge of the buildings in which they might have to fight a fire or how the fire might spread, or without

knowing the explosive or flammable materials located in the building. More fire fighters' lives have been lost because of local ignorance of conditions than of errors of judgment or lack of equipment. Progressive fire departments, therefore, make a practice of sending firemen out through buildings for the purpose of familiarizing themselves with the conditions of buildings should they be called upon to fight fire in them. The Fire Department thus has a fundamental reason for making inspections other than the use to which they can put in fire prevention. It has been a long tedious road to establish the fire prevention bureau as a definite part of the fire service. It has become more and more recognized as time goes on that the majority of fires can be prevented with the proper application of sound engineering principles combined with a little common horsesense. Our City officials have recognized the importance and need of a Fire Prevention Bureau in our City. Its organization has been slow. The necessity of crawling before being able to walk has made it so. We are now on the threshold of a new era, approaching complex problems with wisdom and understanding. The functions of fire prevention will be carried out to the credit of the City and a protection to the citizens of our community.

■

INSTRUCTIONS FOR SMOKING IN BED

The following instructions for guests who plan to smoke in bed has been posted in the rooms of a New Jersey hotel.

"1. Call the office and notify the management where you wish your remains sent, as it is a matter of record that a very high percentage of hotel fires are caused by this careless practice.

"2. Notify guests in adjoining rooms of your intention of endangering their lives, so that they may take necessary precautions to protect themselves.

"3. Go to the corridor and locate the nearest fire escape, so that if you are fortunate enough to escape your room, you may reach safety.

"4. Now sit down and think how foolish it is for you to take this risk — you may enjoy your smoke while thinking it over.

"Business may be good, but we do not have customers to burn, so please — help us to protect you."

The above item is from *The Hudson Valley Fireman* for March 1949

use "Wetter Water" Fire Fighting

WITH UNOX PENETRANT

TRADE-MARK

"It's like turning out the light"

▶ Leading fire chiefs say that "Wetter Water" fire fighting is the greatest improvement since fog. This new "aggressive" water knocks out most fires three to four times faster than plain water. It will extinguish fires in baled materials that plain water can't even reach. For the best "Wetter Water"— get UNOX Fire-Fighting Penetrant.

Try UNOX Penetrant on all class A fires and class B spill fires, and you'll always use it. It spreads and covers, but most important— IT PENETRATES QUICKER. That gets the water to the heart of a fire and puts it out. UNOX Penetrant means quicker knockdowns with much less water, little or no water damage, less punishment to firemen, and fewer rekindles. UNOX Penetrant can be used with a proportioner; or premixed in booster tanks or tank trucks, sprinkler systems, hand extinguishers, or "Indian" Pumps.

Get the full story from the dealer nearest you on UNOX Penetrant, a product of Carbide and Carbon Chemicals Corporation.

Order from the dealer nearest you

ABERDEEN, S. D.
Warren C. Little
1306 N. Lincoln St.

BALTIMORE, MD.
F. L. Anderson Co.
Bush and Russell Sts.

BIRMINGHAM, ALA.
"L.P." Harless Co.
2627 Seventh Ave. S.

CHICAGO, ILL.
Viking Auto. Sprinkler Co.
5520 N. Wolcott Ave.

DALLAS, TEXAS.
Texas Auto. Sprinkler Co.
2330 Summer St.

DOVER, DEL.
Capital Fire Equip. Co.
205 W. Division St.

HAMDEN, CONN.
O. B. Maxwell Co.
1224 Dixwell Ave.

KANSAS CITY, MO.
Walton-Viking Co., Inc.
2518-20 Holmes St.

LOS ANGELES, CAL.
Sharpe Engineering Co.
416 W. Eighth St.

MEMPHIS, TENN.
Shaw Supply Co.
857 S. Parkway E.

NEW YORK, N. Y.
Moon Fire, Inc.
26 Ferry St.

NORTH TARRYTOWN, N. Y.
Wesco Fire Equip. Co.
186 Cortlandt St.

PEORIA, ILL.
Couch and Heyle
1016 S. Adams St.

PHILADELPHIA, PA.
Nat. Alexander Co., Inc.
401 N. Broad St.

PITTSBURGH, PA.
Safety First Supply Co.
530 Fernando St.

PORTLAND, ORE.
Munnell and Sherrill, Inc.
400 S. First Ave.

SAN FRANCISCO, CAL.
Coast Fire Equip. Co.
272 Fremont St.

WINSTON-SALEM, N. C.
Stop Fire Equip. Co.
624 W. Fourth St.

UNOX is a registered trade-mark of C.&C.C.C.

Everything in Protection

MSA

SAFETY EQUIPMENT HEADQUARTERS

M·S·A Streamlined Fireman's Helmet

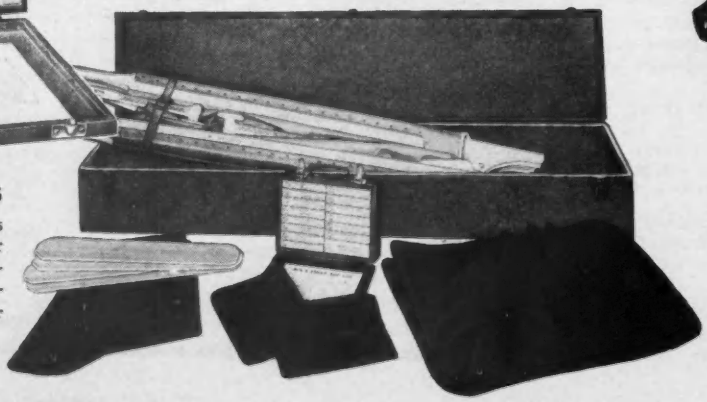
Smoothly curved for strength, utility and appearance, this popular Helmet withstands severe impact, heat, water and chemicals without injury. Light and comfortable to wear—one-piece molded of laminated bakelite—design deflects hot water, embers from neck and face. Shock-absorbing cradle in crown; rubber-cushioned sweatband. Detachable winter lining also available. *Bulletin DX-9.*

Edison Electric Floodlight

Brilliant, dependable illumination with easy portability. Uses sturdy Edison steel-alkaline cells for years of service. 25,000 candlepower with polished reflector. U.S. Bureau of Mines-approved for hazardous locations. *Bulletin M-10.*

M·S·A Stretcher Outfits

A complete line of stretchers including the illustrated M.S.A. Folding Stretcher Outfit. Compact steel case, ideal for vehicle mounting, contains folding stretcher, a wool and a rubber blanket, chemical hot pads, First Aid Kit, splints. *Bulletin FA-77.*



M·S·A First Aid Kits

Weatherproof, dustproof Kits meeting all requirements for fire department service, containing unit-packaged treatments and materials for emergency use. *Bulletin FA-91.*

H-H Inhalator

Known and used everywhere for effective resuscitation. Supplies correct oxygen-carbon dioxide mixture to lungs of victim in conjunction with artificial respiration—safe, simple, dependable. Bulletin CA-9.

for the modern Firefighter!

As the world's largest manufacturer of safety products, M.S.A. is headquarters for the finest in protective equipment required by today's fire departments. In quality, comfort, performance and durability, M.S.A. equipment leads the field . . . kept in front by premier research, exacting manufacture and long experience with the fireman's safety needs. For top service and value, specify *"M.S.A.—all the way!"*

M·S·A Chemox® SELF-GENERATING

Oxygen Breathing Apparatus

Light and compact, CHEMOX supplies all the oxygen you need in unbreathable air—*generated as you breathe in a replaceable chemical canister!* Non-fogging lenses—no cylinder, high pressure lines or fittings—U.S. Bureau of Mines-approved for 45 minutes' minimum service per canister—simple to maintain. *Bulletin B-14.*

M·S·A Demand Mask

Uses the M.S.A. Demand Regulator for automatic supply of compressed oxygen (or air) from back-carried cylinder, according to breathing requirements. U.S. Bureau of Mines-approved for 30 minutes' service—light metal carrying frame—padded leather harness for comfortable wear. *Bulletin B-16.*

M·S·A Type "S" All-Service Gas Mask

The standard fireman's Mask for gas and smoke protection where oxygen is present in air to support life—now available with new M.S.A. Speaking Diaphragm, for clear speech transmission without batteries or wires.

Write for details.

. . . and many other first quality safety products . . . Check your M·S·A representative on your Department needs.

SUSTAINING MEMBER: INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

MINE SAFETY APPLIANCES COMPANY

BRADDOCK, THOMAS AND MEADE STREETS · PITTSBURGH 8, PA.

At Your Service:

54 BRANCH OFFICES IN THE UNITED STATES AND CANADA

CAIRNS

Outfitters to Firemen Since 1836

Offers you your choice of every approved type of Fire Helmet. Typical drop-brim styles are illustrated below.

• • • • •

LEATHER

THE "SEAMLESS"

One - piece seamless leather crown, steel-reinforced — in "regulation" or drop-brim style.

• • • • •

ALUMINUM

THE "STREAMLINER"

A low-crown aluminum helmet combining "regulation" and drop-brim features.

• • • • •

PLASTIC

THE "COMMANDO"

A "Flint-Flex" (plastic) helmet of advanced design—light, safe, durable.

• • • • •

Regulation style Helmets in all materials are shown in our catalog, together with our complete line of Firemen's Equipment.

Write for Catalog 330

CAIRNS & BRO., Inc.

ALLWOOD, CLIFTON, N. J.

The Story of a Rural Fire Protection District

By Andrew R. Alaways (Member NFPA)

THIS is written concerning the Clear Lake Volunteer Fire Department covering Skagit County Fire Protection District No. 4 in the State of Washington.

It all began at a P.T.A. meeting in 1946. A man was showing some 8 mm motion pictures he had taken. At the end the pictures showed two fire trucks pulling out of a little white station, racing to a fire, pulling up in front of a house that was really blazing, and the successful extinguishment of the fire.

People began to ask questions and from then on it was something like the late William Brinkloe's book, "The Volunteer Fire Company."* "Where was that picture taken?" The answer was that it was taken only 13 miles from Clear Lake.

"What town does that fire department belong to?" The answer was that it did not belong to a town, but to some farmers. Then some one asked, "Who are you?" The answer, "I am chief of that fire department."

From there on there was several hours of discussion and out of this a town of about 600 people, and a rural area of about the same population, got its first fire truck. Three men at the meeting were appointed as a committee to form a fire department.

The total valuation of the community was only $500,000 which would bring in $2,000 a year on a special 4 mill fire district tax.

The committee had the cooperation of Fire Chief Jack Hebert of Sedro Woolley Fire Department then covering Clear Lake from a distance of four miles; Chief Lloyd Ivy of Rural Fire Protection District No. 2 (he had shown the movies); and Chief Bruce Nelson of Mount Vernon, which was also protecting part of Clear Lake from a distance of six miles.

* Published by NFPA in 1934.

Fortunately, the State of Washington has a law permitting the formation of rural fire protection districts. These districts can include unincorporated towns such as Clear Lake. The formation of the fire district was brought to a vote and passed with a large margin.

As soon as the district was formed and three commissioners were elected, a bond was issued and a truck ordered. During this time a volunteer fire company was formed, not so much to fight fires as to raise money, and that they did. Enough money was raised by subscription, donations and dances to pay cash for a 1947 two-ton Ford chassis.

A contract for construction of the apparatus was awarded to the Howard Cooper Corp. of Portland, Oregon. A 500 gpm single stage centrifugal pump and 500 gallon water tank were mounted on the chassis. The apparatus has all equipment usually carried on a rural truck. The hose body accommodates 1,000 ft. 2½-in. hose and 500 ft. 1½-in. hose. However, due to road conditions in the rural areas, the apparatus carries only 800 ft. of 2½-in. hose and 500 ft. 1½-in. hose. The town has fourteen hydrants only two of which have flows of under 500 gpm and ten exceed 750 gpm.

The truck was delivered April 13, 1948 and was tested by the Washington Surveying and Rating Bureau. It made its first run just twenty-three hours after acceptance. By the end of the year the truck had answered a dozen calls including seven house fires. Three of these were outside of the district. Property saved was valued at $13,405 and property damage was $4,405, largely from one fire for which the call was delayed.

Fire Chief William Eastbury and Drillmaster Andrew R. Aleways are the only members who had previously served on a fire department. There are fifteen active firemen and a ladies auxiliary.

Truck and crew of Skagit County Fire Protection District No. 4. Chief William Eastbury at left. Note 100 ft. 1½-in. line with all purpose nozzle is carried on wye on 2½-in. outlet.

AUTOMATIC FIRE DETECTION and ALARM SERVICE

Automatic Fire Detection and Alarm Service

Sprinkler Supervisory and Waterflow Alarm Service

Burglar Alarm Service

Industrial Process Supervisory Service

Heating System Supervisory Service

Automatic Smoke Detection and Alarm Service

Holdup Alarm Service

Watchman's Reporting Service

Manual Fire Alarm Service

Records of large-loss fires prove conclusively that fire protection measures are not adequate unless they include dependable means for detecting and reporting fire *automatically.*

For unsprinklered properties, ADT provides Aero Automatic Fire Detection and Alarm Service. Aero is a combined pneumatic and electrical system which operates to give an alarm whenever the temperature in a protected area rises at an abnormally rapid rate.

No matter where fire may start . . . no matter what the hour of day or night . . . Aero *automatically* detects the incipient blaze and *automatically* summons fire-fighting forces.

This protection service is available through ADT Central Stations in principal cities of the United States. Elsewhere, the same protective systems, including all-important ADT inspections, tests and maintenance, may be provided for local operation or direct connection to fire or police departments.

Write for details on how ADT Services may be applied to effect better fire protection at less cost.

✓ **#1 in a series presenting the principal ADT Services for the protection of life and property.**

ADT

In addition to the prompt and efficient handling of alarms, ADT Service includes the following all-important fundamental features, without which there is little assurance that any protective signaling system will function properly when an emergency arises:

- **CONTINUOUS SUPERVISION**
- **REGULAR INSPECTIONS and TESTS**
- **COMPLETE MAINTENANCE**

AMERICAN DISTRICT TELEGRAPH CO.
155 SIXTH AVENUE NEW YORK 13, N. Y.
Central Stations in All Principal Cities

Membership Report

THIS is your Association. You can help the NFPA begin the new fiscal year starting May 1, with the largest membership in our history by three simple steps:

1. See that your own fire department renews its membership promptly when renewal notices are received.
2. Recommend membership in the Volunteer Fire Company Section to any interested volunteer fire company, volunteer fire department or industrial fire brigade.
3. Recommend NFPA Associate Membership to any individual, firm, or corporation that you feel should be interested in fire protection and would benefit by the information contained in the publications sent to members.

New members of the Volunteer Fire Company Section are:

Brock Vol. Fire Brigade, Brock, Sask.
The Clifton Hgts. Hose, Hook & Ladder Co., Clifton Hgts., Pa.
Dayton Ky. Vol. Fire Dept., Inc., Dayton, Kentucky
Encorse Twp. Vol. Fire Dept., Wyandotte, Mich.
Edgewood Vol. Fire Dept., Puyallup, Wash.
Enumclaw Fire Dept., Enumclaw, Wash.
Jefferson City Fire Dept., Jefferson City, Mo.
La Have Fire Dept., La Have, N. S.
Ludlow Fire Protection Dist., Ludlow, Ill.
Maple Heights Vol. Fire Dept., Maple Heights Ohio
Nakusp Vol. Fire Brigade, Nakusp, B. C.
North Haledon Fire Co. No. 2, Paterson, N. J.
No. Kamloop Vol. Fire Dept., No. Kamloop, B. C.
Scottdale Vol. Fire Dept., Scottdale, Pa.
Tolleson Vol. Fire Dept., Tolleson, Ariz.
University City Fire Dept., University City, Mo.
Willoughby Twp. Fire Dept., Willoughby, Ohio
Woodstock Fire Dept., Bryant Pond, Maine

VOLUNTEER FIRE COMPANY SECTION MEMBERSHIP

($12.50 annual dues) Eligible:

(1) all bona fide volunteer fire organizations in any community.

(2) all fire departments and companies in communities of less than 25,000 population.

(3) all industrial fire brigades.

Member companies receive ten copies of FIREMEN magazine each month, mailed to the homes of individual firemen. Beyond the ten, additional copies of FIREMEN cost $1 per year.

Volunteer Fire Company Section members receive at their headquarters, one copy of all publications sent to NFPA individual associate members.

INDIVIDUAL ASSOCIATE MEMBERSHIP

($12.50 annual dues) Eligible:

Individual fire departments, officers, firemen, and others interested in fire safety. NFPA associate members in the fire service receive: one copy of FIREMEN magazine monthly, the NFPA Quarterly, the monthly News Letter, technical standards, popular bulletins and posters.

All associate members have one vote in Association affairs.

"Churches are Burning"

During the ten-year period 1938-1947, there were 26,000 church fires in the United States and Canada. Many of these resulted in total destruction. In an effort to retard this great loss, both monetary and intangible, the NFPA has undertaken considerable research in compiling data locating the hazards encountered, and their elimination. This pamphlet has been prepared to serve as a fire prevention guide to church officials and others charged with the responsibility of protecting churches from fire; it is written for everyone who would ask themselves the urgent question, "How can I prevent the destruction of my church by fire?"

Price $1.00

National Fire Protection Association
60 Batterymarch Street, Boston 10, Mass.

Livonia Township Fire Department

THE Livonia Township Fire Department (member NFPA) protects an area of 36 square miles located a short distance west of Detroit, Michigan. According to H. T. Valrance, Public Relations Officer, the population protected is about 18,000. The department operated two pieces of apparatus and hopes to add a third piece. There are five full time paid men including Chief Calvin Roberts, and 32 volunteer firemen.

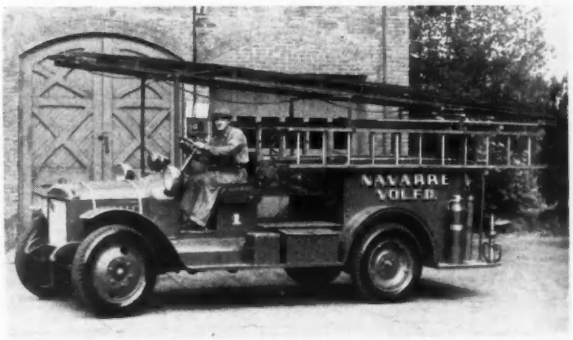
The present trucks include a John Bean high pressure truck which also carries a 500 gpm Barton front-mounted pump and 1,000 ft. 2½-in. hose in addition to the two 250 ft. high pressure fog lines. The other truck, built on a Dodge chassis, has a 500 gpm midship mounted pump, 1,000 ft. 2½-in. hose connected to a wye supplying two 100 ft. leader lines of 1½-in. hose with fog nozzles.

There are two Scott Air Pack masks on each truck and the usual complement of ladders and tools. At the No. 1 fire station there is an E & J Resuscitator available on call.

The department depends entirely on telephone service to receive its fire calls. This is not entirely satisfactory because there are four telephone exchanges in the Township. However, the 1948 fire loss was $24,000, which is but 0.002 percent of the $12,000,000 valuation protected.

The department operates a Firemen's Association which holds an annual ball each February with an attendance of 300 and 400 persons. Receipts are spent to sponsor a boys' baseball team, help with Christmas charities, and aid needy families in the Township unfortunate enough to suffer from fire. The department has been in operation since January 1941.

Navarre, Ohio, Fire Department



1916 Republic fire truck converted to an auxiliary ladder truck.

WHEN the Navarre, Ohio, Village Council organized a municipal volunteer fire department in 1947, Mr. A. Nickles, operator of the Nickles Bakery Company, a $5,000,000 establishment, presented a modern fire truck to the village. Subsequent to this the old 1916 Republic fire truck was converted to carry ladder equipment as shown above. When Navarre obtained this machine from Cuyhoga Falls Fire Department in 1924 it was equipped with a hose body and two chemical tanks. The old four cylinder machine starts on magneto.

Chief Raymond Earle of Massillion (member NFPA) was asked to reorganize and instruct the Navarre fire department, operating as an instructor for the Ohio fire training program under Kent State University and Ohio State University. An intense training course was completed by 25 men who are now about to begin an advanced course. An interesting fact is that Mr. Nickles, a man of about 70 years, participated in all classes and evolutions, including running the pump, wearing gas mask in smoke house, handling charged lines, and graduated with a grade of 86 percent.

FIRE SCHOOL DATES

Alabama
Annual Fire School, University, June 20–24.

Connecticut
Annual Fire College, New London, June 9–12.

Illinois
25th Annual Fire College, Urbana, June 14–17.

Iowa
Twenty-fifth annual FIRE SCHOOL, Ames, May 17–20.

Kentucky
Western Kentucky Fire School, Owensboro, May 10–11.
Northeastern Fire School, Morehead, May 23–27.
State Fire School, Lexington, June 7–9.

Michigan
21st Annual Fire College, University of Michigan, Ann Arbor, June 14–17.

Minnesota
Northwest Fire School, St. Paul, May 4–6.

Missouri
Thirteenth Annual Fire Conference, University of Missouri, Columbia, June 28–30.

New Mexico
Firemen's convention and fire school, Silver City, June 13–16.

North Carolina
Annual Fire College and Drill School, Charlotte, May 4–6.

North Dakota
Fire Service School, State School of Science, Wahpeton, May 16–18.

Oklahoma
Sixteenth Annual Short Course, Stillwater, June 6–25.

South Dakota
State Fire School, Huron, June 12–17.

Pennsylvania
Fourth Berks County Fire Training School, Wyomissing Grade School, Wyomissing, June 8–12.

Texas
Twentieth annual session, Firemen's Training School, College Stateion, July 10–15.

Utah
Fifth Annual Firemen's Training School, Salt Lake City, June 16–18.

West Virginia
Nineteenth Annual Fire School, Morgantown, July 25–28.

Legal Aspects of Rural Fire Protection in Ohio

A 40-page booklet by the above title has been prepared under the auspices of The Ohio Rural Fire Safety Committee and published by the State Fire Marshal's Department, according to Chief Charles R. Scott of the Ohio Fire Prevention Bureau.

THE ONLY TWO STAGE PUMP WITH 3 STAGE PERFORMANCE

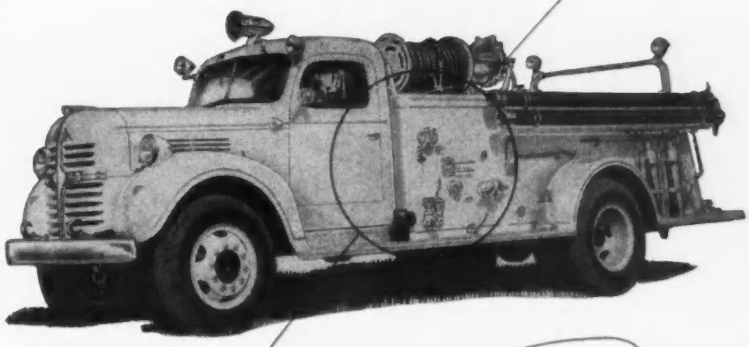
Barton-American
DUPLEX MULTI-STAGE
Centrifugal Fire Pump

Two independent pumps driven by individual gear trains —breakdown of one still leaves one in operation — makes possible three operating characteristics.

1. Large capacities at normal pressures delivered through the capacity pump only.

2. Normal high pressures delivered through the high pressure pump only.

3. Pressures as high as 400 pounds are delivered with both pumps operating in series and at LOW engine speed.



The Barton-American Duplex-Multistage is the ONLY fire pump that has three distinct and separate operating characteristics, yet has only TWO impellers.

Positive one point lubrication. Ball bearings and gears are all located in pump transmission case, using same grade of oil as truck engine. No grease cups to be overlooked — no water lubricated bearings to run dry and fail.

Delivers 400 pounds pressure for fog gun service.

AMERICAN-MARSH PUMPS
BATTLE CREEK MICHIGAN
U. S. A.

IN CANADA: C. E. HICKEY & SONS, LTD., HAMILTON, ONTARIO

Beacon Ray Light

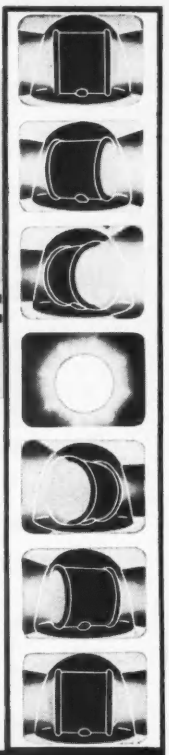
Eclipses **ALL OTHER WARNING LIGHTS!**

Don't be content with ordinary warning light protection, danger may lurk at any point of the compass. Protect all-the-way with Beacon Ray.

Only Beacon Ray gives all-around 360° protection, not just front end or front and rear protection, but full 360° front, sides and rear.

Reliable, longer lasting, due to superior design which has eliminated oscillating parts. Totally enclosed from weather influences—seals working parts from sleet, snow, rain, dust and mud. All moving parts of Beacon Ray are inside.

Specify **BEACON RAY LIGHT AND FEDERAL COASTER SIRENS ON ALL *NEW* APPARATUS!**



FEDERAL ENTERPRISES, INC.

formerly: FEDERAL ELECTRIC COMPANY, INC.

8717 SOUTH STATE STREET CHICAGO 19, ILLINOIS

The Original MIDWESTERN Yellow Striped Safety Coat Is Again Available . . .

for Men of Action!

Here's Protection and Comfort in Your Hazardous Work of Safeguarding Life and Property Against FIRE!

Modern fire fighting calls for *specialized* protective clothing . . . clothing that safeguards the fireman's life on every run . . . clothing that enables him to use his equipment to the fullest advantage.

Every Midwestern product combines the thoughts and suggestions of practical Fire Chiefs and firemen from every section of the country . . . and every purchaser profits from years of Midwestern research and experience. That is why the famous Mackinaw Coat and other Midwestern clothing have embodied in their design every feature necessary for the protection and comfort of firemen.

In our vast selection of crude rubber materials you will find a type of fabric suitable for your climate and needs. The softness and flexibility in the high-grade materials used are your assurance of long time service and comfort. Many Fire Chiefs are now including Midwestern clothing in their regular yearly budget and by placing your order early you can be assured of this adequate protection when needed.

For complete information have your Midwestern dealer show you our new garments now manufactured from crude rubber compounds. A letter to the factory will also bring you material samples for your inspection.

We now have available: White, Ivory and Brown crude rubber coats for Chiefs, Assistants and other officers; also all sizes short and ¾ length felt lined Firemen's boots for immediate shipment.

NONE GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN MFG. CO. MACKINAW ILLINOIS

Manufacturers of the Famous **MACKINAW Coats**

This plaque was recently presented to the Northwestern Elevator & Mill Company Fire Brigade of Mt. Vernon, Ohio by the Ohio Department of The Mill Mutuals of Columbus, for an outstanding fire prevention program in the plant during 1948. This company was one of a large number of such plants in Ohio cooperating with The Mill Mutuals in a fire prevention program.

●

Ontario Fire Department to Get Financial Aid from Province

THE Province of Ontario has adopted legislation whereby the Province will make a percentage contribution to the annual costs of all municipal fire departments. This bill takes effect retroactive to January 1, upon conclusion of the present session of Legislature. It is an example of the British system whereby a central authority contributes substantially to the support of local fire protection. This assistance is likely to be very important in promoting fire departments, particularly in rural fire districts and small communities which will get the largest percentage of aid under this act.

Under the "Fire Departments Act of 1949," all payments of grants are conditional upon there being Workmen's Compensation protection for both volunteer and full-time fire fighters, municipal pension plans approved by the Superintendent of Insurance for all full-time fire fighters, and the municipality being in compliance with Part I of the act which proscribes hours of work for fire fighters and assures collective bargaining between fire fighters and their municipalities (see FIREMEN for May 1947, page 13).

In Part II of the act, a completely new section listing expenditures toward which the province will contribute, includes among authorized expenditures memberships in various fire associations and attendance at their meetings. Also, in the purchase of new fire apparatus the province contributes from 10 to 35 percent of the cost of apparatus which meets prescribed standards to be pro-

mulgated by the Lieutenant Governor in Council, and which will closely follow standard North American practice. This should encourage communities to purchase well designed rather than make-shift apparatus and equipment.

The new legislation provides for the establishment of a central fire college for the training of officers. Also included under this statute is the work of regional fire schools and travelling instructors which the Ontario Fire Marshal's office has been conducting under authority of the Fire Marshals Act.

Under the new act, the amount contributed to various municipalities varies with the size of the community, with a higher percentage of assistance going to the smaller fire departments. Cities of under 10,000 population are entitled to 25 percent; those from 10,000 to 25,000, 20 percent; 25,000 to 70,000, 15 percent; over 70,000, 10 percent. The population of the fire district served, rather than municipal population, is the criterion. Where any municipality has an agreement with another municipality for fire protection it shall be deemed to have a fire department for payment purposes.

To obtain payment the treasurer of each municipality shall send a claim to the Provincial Fire Marshal giving the cost of the fire department for the preceding year. If correct, the Fire Marshal shall certify the claim to the Treasurer of Ontario. Expenses that may be listed in the claims include the pay of fire fighters; uniforms and personal equipment; office supplies; workmen's compensation; pension contributions; expenses for attending meetings of fire marshal's, fire chiefs, fire fighters, fire college, or fire schools; fire apparatus and equipment; fire alarm and communications including operation and maintenance; and such other matters and things as the Lieutenant Governor in Council may prescribe.

The Treasurer of Ontario may make an additional grant out of the Consolidated Revenue Fund to any municipality that for the first time purchase a motorized fire pumper, equal to 10 percent of the purchase price. In the case of a small community this would bring the contribution of the province to 35 percent.

The Lieutenant Governor in Council may not only make regulations prescribing standards for fire apparatus and fire fighting equipment but respecting any other matter necessary to carry out the intent of the act. The Fire Department Act of 1949 repeals the Act of 1947 with its 1948 amendments. Upon adoption the new act is retroactive to January 1, 1949. Estimates for the year starting April 1, 1949 for the Fire Marshal's Office to cover the above grants plus other usual work of the Office total $1,665,090.

Of Course He Can Put the Fire Out!
HE HAS AN
INDIAN FIRE PUMP

There's no doubt about the result when this "one man fire department" goes into action. "They are worth their weight in gold". These are some of the praises firemen write us about INDIAN FIRE PUMPS. They are the leading hand extinguishers for fighting Class A fires according to fire departments and foresters. Ask one of these men who have used them. "Water wetting" agents work best in INDIANS and do not harm the tank.

Now is a good time to be sure you are amply supplied with INDIAN FIRE PUMPS. Available with Armco zinc grip steel tanks lined with asphaltic base paint or with solid brass or chrome plated tanks. Send for catalog describing these famous back pack extinguishers.

Put the INDIAN Sign on Every Fire!

D. B. SMITH & CO. 406 Main St. Utica 2, N. Y.

PACIFIC COAST BRANCHES:

Hercules Equipment & Rubber Co., Inc.
435 Brannan Street
San Francisco 7, California

Roy G. Davis Company
617 East Third Street
Los Angeles, California

Fred E. Barnett Company
2005 S. E. 8th Ave.
Portland, Oregon

Fred E. Barnett Company
600 Spring Street
Klamath Falls, Oregon

Mill & Mine Supply, Inc.
2700 Fourth Avenue South
Seattle, Washington

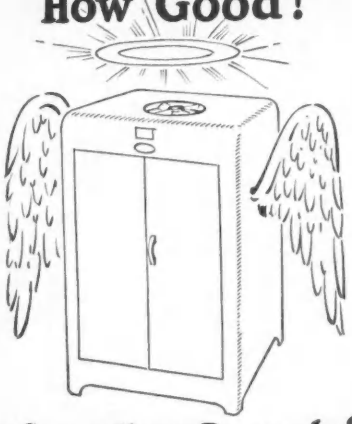
L. N. Curtis & Sons
426 West Third Street South
Salt Lake City, Utah

CANADIAN AGENTS:

Fleck Bros. Limited
110 Alexander Street
Vancouver, B. C., Canada

Duke Equipment Company, Limited
297 Duke Street
Montreal 3, Canada

How Good!



Can a Hose Dryer *be?*

Good enough, we'd say, to keep winning friends and to influence new station design. Day after day, week after week, year in and year out, new and old friends pass along such comments as "best piece of equipment we have"—"wouldn't be without it"—"pays its own way" and other expressions of approval equally flattering.

Good enough, too, that according to our recent survey it is specified in over 70% of new engine houses to be built this year. And good enough so that these cities, among hundreds of others in recent months have "SWITCHED TO CIRCUL-AIR":—

Allentown ● Anniston ● Benton Harbor Boston ● Chicago ● Columbus ● Cedar Rapids Detroit ● Dallas, Ore. ● Erie ● Edgewater, N. J. ● Grand Rapids ● Greensboro ● Kalamazoo (Twp.) ● Lake Wales ● Louisville ● Memphis ● Newark ● Oklahoma City ● Omaha Oshkosh ● Providence ● Racine ● Santa Fe Twin Falls ● Trenton ● Winnipeg.

CIRCUL-AIR THE AIR-CONDITIONING

FIRE HOSE DRYER

- √ Dries hose in a few hours
- √ Saves space—fits in any corner
- √ Keeps all hose ready for service
- √ Makes good hose last longer
- √ Reduces new building costs
- √ Improves station design
- √ Dries fire clothing, too

WRITE FOR FREE BOOKLET

THE CIRCUL-AIR CORPORATION
575 East Milwaukee Street
DETROIT 2 ◆ MICHIGAN

Training and Study Program of the Richmond, California, Fire Fighters

By Chief H. J. Schmidt

OUR city is industrial and has had perhaps the fastest growth of any city in the country. From 23,000 persons in 1940 we have increased to 105,000. We still have 70,000 residents in Federal housing projects. These are mostly 16 apartment buildings of combustible construction. To protect our city we have 7 engine, 1 aerial, and 1 service truck companies with a total personnel of 140 men.

At the time that I became Chief of the Fire Department we had no educational program and very little drilling. Some members of the department resented my insistence upon an intensive educational course. The older men especially, complained that they were at a disadvantage competing with younger men. They felt that the program would cause them to lose the perogative of promotion by seniority, regardless of ability. However, members of the City Council and in particular the Fire Committee, and the City Manager supported and aided the training program.

Study time was set from 1 to 3 P.M. each day, excepting Wednesdays, Sundays and holidays. Material for study is provided for all members and when possible given to each man in mimeographed form. The same lessons are assigned to all stations for a three month period. At the end of each period an examination is held consisting of 100 true and false questions. Where an officer was not trying, this showed in his examinations, and as a rule his entire company made a poor grade. In such cases the officer and men were called to the office to correct the condition.

All men were notified that in the future all promotions would be by written examination followed by an oral examination, with consideration for seniority, and that low grades on educational examinations would be taken into consideration on qualifying for future promotional examinations.

We make up our own study books, and have made five books thus far. Each man gets a book. I also selected men to make a survey of our main buildings including manufacturing plants, and to write a report on each, with drawings. This material we stencil, mimeograph and send to each member for study. After study, each company while on duty with apparatus follow up with an "on the plant" inspection. All men take part except the engineer who remains at apparatus and keeps the company in service via radio. The department is fully 3-way radio equipped.

Our plans for a drill tower are finished and bids are out so we expect to have a drill tower soon, but at present we have regular drills on available buildings. Once a week we hold "drafting practice" at which two or more pieces of equipment are used. All men operate pumps, use all equipment including deluge sets, pumper relays, etc.

We conduct hydrant flow tests in the regular way with reports of tests reaching each man, but I find that information from a pumping flow test is retained by the men much better. To test a low pressure hydrant we send more apparatus and use more lines than the hydrant can deliver. Then I cut the lines down until we have the limit of effective lines available from said hydrant. This is a flow test that the men don't forget.

The drafting drills are conducted every Tuesday, with two drills held. One from 9:30 A.M. until 11:30 A.M. and one from 1:30 P.M. until 3:30 P.M. At each of these drills there is at least one engine and one truck company participating. Each engine company receives one drafting drill a month and each truck company four drills a month. In addition to the study periods and drafting drills, each station must hold one outside drill, one inside drill, and one night school each week.

Each Thursday the chief officers inspect all stations. At these inspections the men line up along-side of their apparatus in station uniform. Following this the men go along-side of their beds, dress uniform on beds, and with lockers open for further inspection. The last Thursday of each month the Fire Committee and City Manager take part in the inspection. This pays off in that the men take more interest in their work. Also the Fire Committee and City Manager become more familiar with our problems and needs.

Material for study has been furnished to all fire stations as follows:

1. National Fire Protection Association's Handbook of Fire Protection.
2. Municipal Fire Administration by International City Managers Association.
3. National Board of Fire Underwriters Bulletins and pamphlets.
4. Fire Service Hydraulics, by Shepperd.
5. Fire Fighting, by Williams.
6. The Fireman's Textbook, by Cassell and Pritsel.
7. Maps (in book form) showing all water mains, hydrants, shutoffs, etc.
8. Complete hydrant list.

9. Apparatus log manual to be kept with the apparatus at all times. This contains information as to motor, pump, equipment, repairs, etc.

To each fireman is issued the following instructional material:

1. Three books compiled by the Richmond Fire Department consisting of 250 pages on motor vehicle and pump operation, mathematics, and information about the city a fireman should know.
2. Educational bulletins. (Survey of the different industries, theatres, hotels, etc., including a plan of each structure.)
3. Complete fire alarm box list.
4. Books on apparatus and equipment of the department.
5. A book is being compiled on fire hazards, including chemicals, and how to control such hazards.

We have four regular fire inspectors with radio cars, but, to better cover our city, we are preparing a fire inspection course for all members. When the men have finished the course, we shall have companies make inspections in their districts, with all members of a company taking part except the engineer who will keep the company in service via radio. Reports from these inspections will go to the Fire Prevention Bureau for follow up. We are working on a new fire prevention code.

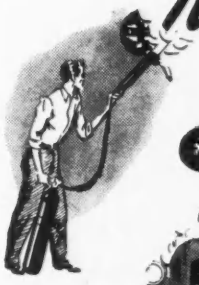
We also have a Junior Fire Department program which has been incorporated into the regular curriculum of all 5th and 6th grade students. This is a year-round program to which one man in our department is assigned. All instructional material, badges, certificates, and membership cards are furnished by our department. The majority of this program has been copied from the Los Angeles Fire Department. The children are taught fire prevention both by their teachers and by our fire inspector. They are shown movies, charts and other visual aids. They are issued hazard correction blanks to be filled out by their parents. Examinations are held, essays are written and posters made. At the end of the spring semester a picnic is held for all students achieving the rank of Captain or better.

Report on German Fire Equipment

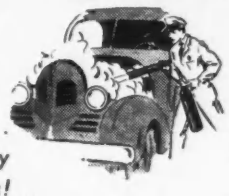
A 24-page pamphlet entitled "Fire Fighting Equipment and Methods in Germany during the period 1939–1945" prepared by the British Joint Intelligence Organization and published for the British Intelligence Objectives Subcommittee, summarizes various post-have finished the course, we shall have war surveys made in Germany. The pamphlet may be purchased in the United States for 20c from the British Information Services, 30 Rockefeller Plaza, New York 30, N. Y.

TURN YOUR SPARE TIME INTO PROFITS!

SELL *Randolph* FIRE EXTINGUISHERS



$84. A WEEK FROM 2 SALES A DAY!



All Sizes . . . Approved By Underwriters!

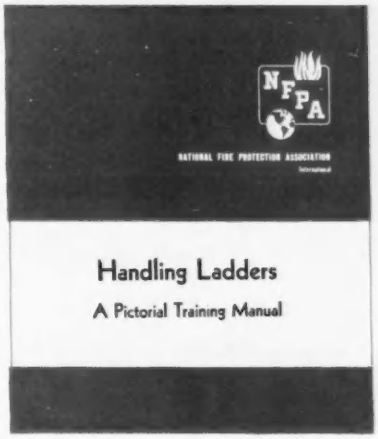
Your prospects are *unlimited* . . . every factory, farm, home, garage, laundry, boat and car needs Randolph protection.

Here's the modern extinguisher with a host of fire-fighting features. It's easy to use . . . just one trigger-touch sends snowy CO_2 deep into the fire . . . smothers it in split-seconds. Randolph is non-toxic, no damage to equipment. Does not freeze, deteriorate, or conduct electricity.

Build a successful *part-time* business as a Randolph Dealer. Sell the nationally advertised Randolph Extinguishers used by leading industries everywhere. Write for your full or part-time Dealership Plan *now!* The same plan that is bringing big profits to scores of other firemen. Qualify for an *exclusive* territory by acting . . . TODAY!

RANDOLPH Laboratories, Inc., 5 E. Kinzie St., Chicago, Ill.

"Handling Ladders" First Manual of Joint Committee on Evolutions



Published by the National Fire Protection Association

★

Approved by:

NFPA Committee on Firemen's Training

International Association of Fire Chiefs

Fire Department Instructors Conference

The Joint Committee on Evolutions first manual, "Handling Ladders" contains some 231 large photographs in its 120 pages. It is available from the NFPA executive office, 60 Batterymarch St., Boston, Mass., for $1.50 per single copy or $1.00 per copy in quantities of 10 or more.

We Welcome the Endorsement, by Other Leading Fire Extinguisher Manufacturers, of Dry Chemical Fire Extinguishers

FOR CLASS "B" AND CLASS "C" FIRES

ANSUL respectfully acknowledges the supreme tribute paid it by other leading fire extinguisher manufacturers who have recently entered the dry chemical fire extinguisher field.

ANSUL CHEMICAL COMPANY

Pioneers in the Research and Development of Dry Chemical Fire Extinguishers

FIRE EXTINGUISHER DIVISION • MARINETTE, WISCONSIN

Cleveland, Ohio Suburbs Organize Mutual Aid

SIX suburban communities east of the city of Cleveland, Ohio, have organized for mutual aid response to major fires. Contracts have been signed by South Euclid, Lyndhurst, Mayfield Heights, Gates Mills, Highland Heights, and Mayfield Village. Cleveland Heights has agreed to assist in case of a big fire.

How regional fire fighting works was demonstrated in a drill called by Dale Hogg, Lyndhurst fireman, and his committee, known as the "Dirty Dozen." This tag was dreamed up by men disappointed in responding to drill practice instead of a fire. Recently Fireman Hogg called the Lyndhurst Fire Department to report a "fire" at Brush High School. Within three minutes the village fire engine pulled up to the school, which had been vacated by a school fire alarm.

Looking over the scene Fire Chief William E. Kingzett of Lyndhurst sent out a "five-alarm" fire call over the police radio. Equipment was summoned from South Euclid, Mayfield Heights and Highland Heights. Gates Mills and Mayfield Village were asked to stand by to answer other fire calls. According to this plan, the fire chief in whose town the fire occurs is in charge. Three additional fire trucks arrived plus 20 cars driven by volunteer firemen.

Apparatus summoned from the farthest corner of the region is allowed about twelve minutes to arrive. At no time is all equipment called to one fire. As is generally the case, a major problem in fire fighting on a regional basis is the traffic congestion caused by curious drivers following fire engines. At this drill the police were ready for such curiosity-seekers. Warning slips were passed out.

Each community pays its volunteers for answering an outside call, the same as if the fire had occurred within the bailiwick but no one is paid for practice runs. Fulltime firemen get no extra pay for going into another town.

This regional fire-fighting idea has been so successful that northeastern suburbs around Willoughby, and southeastern suburbs around Maple Heights are planning similar mutual aid agreements. —IRV LEIBERMAN

★ ★ ★

Effingham Hospital Fire

(*Continued from page 18*)

Wilkins and his department faced at St. Anthony Hospital.

Volunteer fire departments from Matoon (28 miles), Neoga (15 miles), Sigel (8 miles), Alpamont (12 miles), Teutopolis (4 miles) and Salem (45 miles) responded to the State Police radio call for assistance with one engine company each. The Centralia Fire Department (62 miles) sent firemen with-

out apparatus. During the period immediately following the disaster all firemen who responded stayed on duty digging in the ruins to recover bodies and searching for evidence which would indicate the cause.

Effingham and the surrounding farming community for a distance of 35 miles are shocked and without hospital facilities until temporary arrangements can be made. Governor Stevenson has ordered Fire Marshal Pat Kelly (recently appointed) and his 13 man staff to make inspections of more than 400 hospitals (outside the city of Chicago) to determine corrective measures required. It is to be hoped that fire and casualty insurance company engineers, insurance rating organizations, building departments, fire departments, and all persons concerned with life and property safety in hospitals will cooperate with hospital authorities in providing sound recommendations for improvement in life safety conditions as required, and that their recommendations will be promptly acted upon.

(Detailed report including floor plans, etc., will be printed in the July 1949 *Quarterly*.)

●

Variety of Tasks Spices Life of Dallas Firemen

Every fire department has come to expect the unusual as part of its emergency service. The following list of miscellaneous services rendered by the Dallas, Texas, Fire Department during 1948, according to the Annual Report of Chief C. N. Penn, is perhaps typical of many other communities:

27 Drownings
5 Reported drownings
1 Death from carbon monoxide gas
4 " " electrocution
13 " " heart attack
2 " " suffocation
1 " man caught in cave-in
5 Attempt suicide by natural gas
1 Overcome by carbon monoxide gas
1 Man bitten by dog
1 " fell down elevator shaft
5 " had heart attack
1 " overcome by smoke
1 " pinned in auto wreckage
1 " received electrical shock
2 Lady fainted
2 " had heart attack
2 Child strangling
1 " received electrical shock
2 " with convulsions
1 Tonsil operation
24 Treated for burns
16 " " cuts and bruises
1 Rescue man hung in escalator
1 " " in hole
1 " child in hole
1 " " " on roof
17 Lady locked out of house
2 Man locked out of house
18 Child locked in room
1 Assist man to top of building
8 " police
27 Cover roofs
1 " window
6 Cut off gas
27 " " water
1 " " " heater

(*Continued on page 28*)

SCOTT BACK-PAK

Fight Fires Quickly, Safely -at the source!

with

Scott Air-Pak

Scott Air-Paks are reducing fire losses by permitting action at the fire's source — quickly, and without fear of unknown smoke or fume hazards. In less than a minute an Air-Pak is on the wearer "ready to go", with a supply of cool, confidence-inspiring *air* (not oxygen) instantly available.

Scott Air-Paks can be put in operation in temperatures as low as 20° below zero. They can't be "outbreathed" — provide an ample supply of air regardless of age or physical condition of wearer. Fine for training purposes; easy to use and learn how to use — Air provides inexpensive training. Standard in thousands of fire departments and industrial plants.

Help *your* department build an enviable record of life and property conservation — with Scott Air-Pak!

Scott Senior Sling-Pak

Many in use by cities and towns with a number of "cellar-less" single story buildings; also used to supplement Scott Back-Paks (above) for short-duration periods, and for chiefs to make short inspection trips into smoke or fume-laden buildings.

Write for Booklet!

Get the full story of Scott Air-Pak equipment — also arrangements for FREE DEMONSTRATION. Write for *Bulletin* 510 and name of nearest distributor — today!

ESTABLISHED IN 1932
Scott
FOR SAFETY—FOR SERVICE

SAFETY EQUIPMENT DIVISION

SCOTT AVIATION CORP.

236 ERIE ST. LANCASTER, N. Y.

HONOR ROLL
PRESENTLY WE PAY TRIBUTE TO
THE MEMBERS OF OUR COMMU-
NITY WHO ANSWERED THE CALL
TO THE COLORS IN WORLD WAR II
★ LANE ABBOTT
★ VERL HILTON
★ MAX THEOBALD

NEW BEAUTY in EVERLASTING MEMORIALS

● **Memorialize your Department heroes for all time on these handsome tablets, executed to individual requirements—of hand-chased cast bronze by NEWMAN.**

OUR 67th YEAR

Catalog of tablets in colors, also folders of World War II honor rolls, sent on request, without any obligation. WRITE TODAY.

NEWMAN BROTHERS, Inc.
Dept. F Cincinnati 3, Ohio

FIREMEN'S UNIFORMS

SHIRTS
BADGES
CAPS
INSIGNIA
RUBBER COATS

Manufacturers of Uniforms for over 50 years

Official Makers of Uniforms for New York City Fire and Police Departments, and Serving Other Departments From Coast to Coast.

RUSSELL UNIFORM CO.
1600 Broadway, New York 19, N. Y.
Write for Fire Dept. catalog H-60

Variety of Tasks

(Continued on page 27)

1 Open a door
1 " a drain
1 Put light globes in bowling alley
12 " " " " church
5 " " " " Love Field air terminal
1 " " " " Red Bird airport
1 " " " " Salvation Army
1 " " " " Y.M.C.A.
1 Wash acid off street
9 " blood off street
1 " caustic soda off street
1 " eggs off street
82 " gasoline off street
1 " grass off street
1 " ink off sidewalk
6 " oil off street
1 Put cable in flag pole
1 Flush out sewer
1 Sewer overflowed
1 " backed water into building
1 Water leak in air conditioning system
1 Ammonia leak
2 Inhalator demonstration
1 Light water heater
1 Radio aerial loose
2 Rescue cat in attic
3 " " in chimney
1 " " in cistern under house
2 " " on pole
8 " " on roof
2 " " in sewer
1 " " on signboard
8 " " in tree
2 " " in wall
1 " " under porch
1 " dog in culvert
4 " " under house
1 " " drowned in lake
1 " " hung in fence
1 " bird in chimney
1 " " in tree
1 " coon in tree
2 " monkey in tree
1 " mouse in window
2 " parrot in tree
1 " possum under house
1 " skunk in well
1 " squirrel in chimney
1 Remove bee's nest
1 " bird's nest from vent
1 " dead possum from attic
1 Recover auto in river
2 " ball on roof
1 " football on roof
1 " hat on roof
1 " keys in storm sewer
1 " purse in storm sewer
1 Remove awning
1 " glass from door
1 " icicles from building
1 " loose brick from wall
1 " loose sign
1 " tree from yard
1 " vines from chimney
1 Stand-by for airplane with polio victim
1 " " " crash
71 " " " landing
1 Check broken tree
1 " roof
1 Wet down Fair Park Race Track
1 Move iron lung
1 Haloween pranksters opened fire plug
1 Mop up blood in dwelling
1 Install spark arrester on tall building
1 Building fell in creek
1 Hangar door fell off track
1 Tear down columns
1 8-ton steel roof truss fell
3 Sweep water out of building
1 Water on roof
1 Roof caved in during storm
1 Storm blew tree down
1 Three men marooned in high water

522 Total

CARPENTER LIGHTS

HIGH POWER PORTALITE

The finest dry battery portable light made. Mile range. Powerful searchlight beam for 8 to 10 continuous hours. Instantly ready for any fire. Diameter 6". Size 14" high x 10" x 6". Only 9 lbs.

Write For Folder

"Master-Light-Makers for 34 Years"

CARPENTER MFG. CO.
168 MASTER-LIGHT BLDG.
BOSTON - 45 -
SOMERVILLE, MASS.

INDEX TO ADVERTISERS

A.D.T. Co.	19
American-Marsh Pumps, Inc.	21
Ansul Chemical Co.	26
John Bean Mfg. Co.	2
Cairns & Brother	18
Carbide & Carbon Chemicals Corp.	15
Carpenter Mfg. Co.	28
The Circul-Air Corp.	24
W. S. Darley & Co.	29
Federal Enterprises, Inc.	22
The Gamewell Co.	31
The General Detroit Corp.	3
Hale Fire Pump Co.	30
Mack Mfg. Corp.	4
Newman Bros., Inc.	28
Midwestern Mfg. Co.	22
Mine Safety Appliances Co.	16–17
Randolph Laboratories, Inc.	25
Rockwood Sprinkler Corp.	32
Russell Uniform Co.	28
Scott Aviation Corp.	27
D. B. Smith & Co.	23

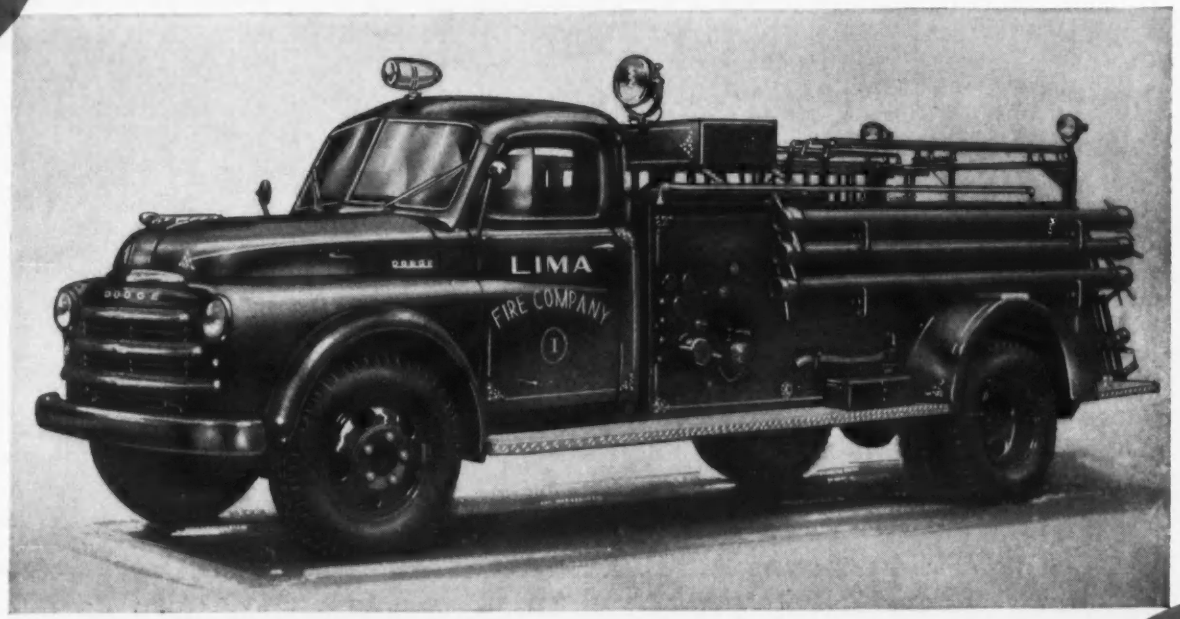
When you write to advertisers, please mention FIREMEN

NEW
24-PAGE
BOOKLET
IN COLORS

DARLEY

CHAMPIONS

If You Are In
The Market for
A NEW Truck
It Will Pay You
To Write Us



WRITE TODAY
FOR YOUR COPY

W. S. DARLEY and Co.
CHICAGO 12

America's Finest

PRESENTING THE CHAMPION LINE
A FIRE PUMP AND FIRE APPARATUS FOR EVERY SERVICE

FIGHT FIRES 3 WAYS with a HALE FZZ!

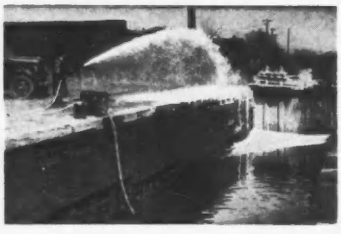
•Solid Stream •Fog •Foam

With a ready-for-use Hale FZZ you can fight fires not only with solid stream and/or fog, but also with foam — an extremely valuable weapon against gasoline tank truck fires. (*Foam proportioner is built in, if specified.)

The easily portable FZZ can be mounted in any apparatus, making it possible to fight fires while apparatus is in motion, using booster tank for source of water. CAPACITY 60 G.P.M. at 90 lbs. pressure; 150 G.P.M. at 30 lbs. pressure.

Nip Brush Fires in the Bud!

Pumping Solid Stream and Fog.



Here's an FZZ Pumping Foam.

**Write for FZZ folder and Bulletin on How to Use Foam with an FZZ.*

HALE FIRE PUMP COMPANY

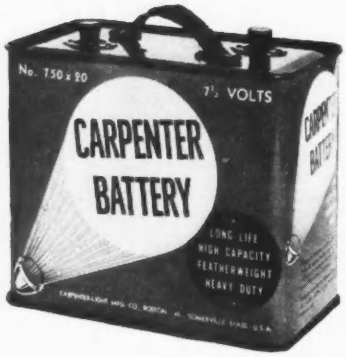
CONSHOHOCKEN, PA.

Fire Pumps in All Standard Capacities

MANUFACTURERS' ANNOUNCEMENTS

Carpenter Announces New Dry Battery

READERS will be interested in the new Multiple cell 7½ volt dry battery pack recently put on the market by the Carpenter Mfg. Co. of Boston 45, Somerville, Mass. In an effort to obtain a suitable battery for their hand search lights and work lights used by fire, police, public utility crews, sportsmen and farmers, they developed their own battery weighing



only 9 pounds, compact size, with screw terminals. This battery, while suitable for low amperage drains, is said to be especially effective for continuous use above ½ to 3 amperes per hour, where, it is claimed by the manufacturer, it out performs old style 7½ volt batteries by as much as 300%, and is approximately the same price.

Photoelectric Smoke Detector Developed by Walter Kidde & Co.

ENGINEERS of the Walter Kidde & Co., Inc. of 251 Main St., Belleville 9, N. J., have developed a new single unit photoelectric smoke detector for early detection of incipient fires in hazardous plant and warehouse locations. In industrial plant areas, where a fire would start slowly, smolder, and produce smoke for some time before flames actually break out, photoelectric smoke detection is said to often betray the presence of smoke before thermostatic or heat actuator alarms or devices are affected.

A continuous sample of air is drawn from the protected space through an individual piping system to an analyzer tube. In the analyzer tube the air passes through a filter screen to remove dirt and dust, then into a beam of light focused on a photoelectric cell. Smoke in the air sample cuts down the amount of light reaching the cell and sets off an alarm connected through an electrical circuit to a control panel.

Baker Fire Fighting Equipment Catalog Announced

THE J. M. Baker Pattern Co., Inc. of 62-68 Sprague St., Providence, R. I., has recently released an attractive new catalog on their latest fire fighting equipment. This eight-page illustrated publication shows and explains in detail their two stream universal cellar pipe, fog nozzles, standard 1½ and 2½-in. shut-off nozzles, portable turret pipe, and turret standpipes.

•

Report on "Handling Ladders"

THE pictorial training manual: "Handling Ladders," prepared jointly by a Joint Committee on Evolutions representing the NFPA Committee on Firemen's Training, the Fire Department Instructors Conference, and the International Association of Fire Chiefs was published by the NFPA in March as reported in the March issue of FIREMEN. To date, the largest orders have been 105 copies purchased by the Nebraska State Firemen's Association for distribution to the fire chiefs of that state, and 100 copies to the Iowa State College at Ames. Price of the manual is $1.50 per single copy, and $1.00 per copy in quantities of 10 or more.

The Joint Committee on Evolutions met at the University of Maryland during the first week in April to begin preparation of a pictorial manual of hose evolutions.

The Town of Northbrook, Illinois, Rural Fire Protection District is one of the most recent communities to purchase fire fighting equipment manufactured by the Four Wheel Drive Auto Company of Clintonville, Wisconsin. Shown above is the FWD Model FR-50-T triple combination pumper which boasts a 500 gallon booster tank, ideal for the purpose it will serve in rural fire fighting.

WHY CITIES PREFER GAMEWELL ...SERVICE...

The Gamewell Company, Newton Upper Falls, Massachusetts. Founded in 1855

TRADE MARK
GAMEWELL
REG.U.S.PAT.OFF

The largest organization in the world engaged exclusively in the manufacture of Fire, Police and Other Emergency Signaling Systems. 28% of our employees — highly skilled workmen — have been with us 15 to 40 years or more.

Growth of cities in population and area requires proportionate expansion of the existing fire alarm systems with equipment capable of dependable operation in conjunction therewith.

This, and the protection of the original investment in systems from which an effective service life of half a century or more should be expected necessitates a dependable source of supply for new equipment and for the replacement at reasonable cost of broken and damaged parts.

The permanence of an established source of supply with adequate facilities for manufacture and service is essential to municipal economy.

The Modern Fire Alarm Box GAMEWELL Three-Fold Successive Type

THE GAMEWELL COMPANY

NEWTON UPPER FALLS 64, MASSACHUSETTS

IN CANADA: NORTHERN ELECTRIC COMPANY, LTD., MONTREAL

NEW CRASH RESCUE TRUCK THROWS 4800 GALLON-PER-MINUTE FogFOAM "Blizzard" ON AIRPLANE FIRES

In the photograph above, you see a "blizzard" of FogFOAM being discharged on a severe gasoline fire around a plane during a drill. A wide path for rescue operations was immediately created between the plane and crash truck.

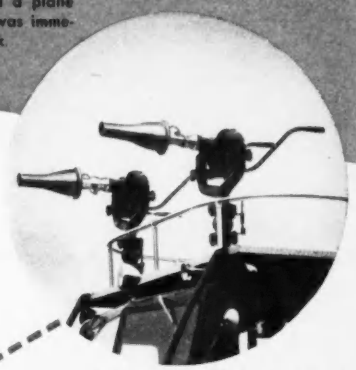
Passengers, whose lives might otherwise be lost, can now be rescued within seconds, in plane crashes at airports, by means of a new development — Rockwood FogFOAM.

Rockwood FogFOAM Systems for both new and old crash-rescue fire trucks have proved that they can knock out such fires — all in a matter of seconds. They will save lives that could not be saved with old style crash fire fighting equipment.

The Rockwood FogFOAM System is shown in action here on a remarkable new type of crash-rescue truck which is now in service in three of the world's leading airports, located in the New York area — LaGuardia, New International and Newark.

This truck embodies the requirements for crash-rescue operations by the management of these airports.

This latest truck was designed and built by Maxim Motor Company on a Walter four wheel drive chassis. The FogFOAM System for the truck was designed and manufactured by Rockwood Sprinkler Company. If you are planning a new crash-rescue truck or revamping an old one, specify a Rockwood FogFOAM System. Write for specifications.



Note how FogFOAM Screens on turret nozzles (bottom) can be quickly changed to Foam Shapers (top) which throw solid foam streams. Same nozzles will discharge WaterFOG.

ROCKWOOD SPRINKLER CO.

88 HARLOW ST. WORCESTER 5, MASS.

Specialists in Fire Prevention Engineering Equipment and Installation since 1907

turret
anged
throw
es will